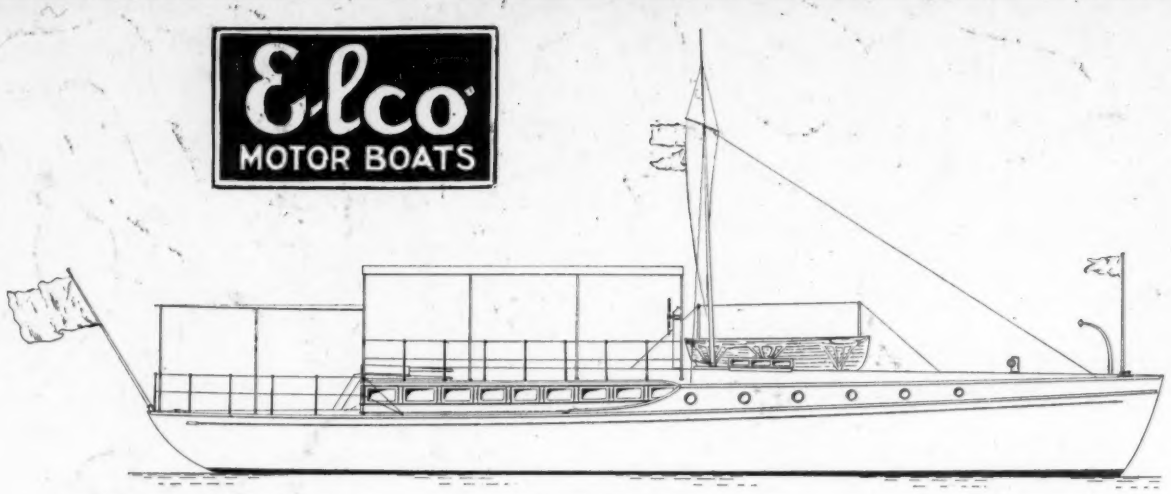
1909

Yachting

A Copy

MIRROR BOATING & SAILING

Elco MOTOR BOATS



25 H.P. Gasoline Engine | 56 ft. Cruising Yacht | Speed, 9 miles.

THE FIRST THING TO CONSIDER IS THE BUILDERS' REPUTATION

Your comfort and even your safety, as well as ultimate economy, depend upon the builders' integrity and experience. We operate one of the largest boat building establishments in the world, design and build every type and size of pleasure craft, either gasoline or electric.

ELCO MOTOR BOATS, both gasoline and electric, are the result of 15 years' experience, a modern and splendidly equipped plant, operated by the most skilled workmen, and a policy to build only the best. Our success is attested to by thousands of satisfied customers and all the various departments of the U. S. Government.

GASOLINE MOTOR YACHTS

of any size, equipped with any engine

Address Elco 193 AVE. A, BAYONNE, N. J.

27 Minutes from New York, Liberty St.
or 23rd St. Ferry, C. R. R. of N. J.

Write for illustrated catalogue

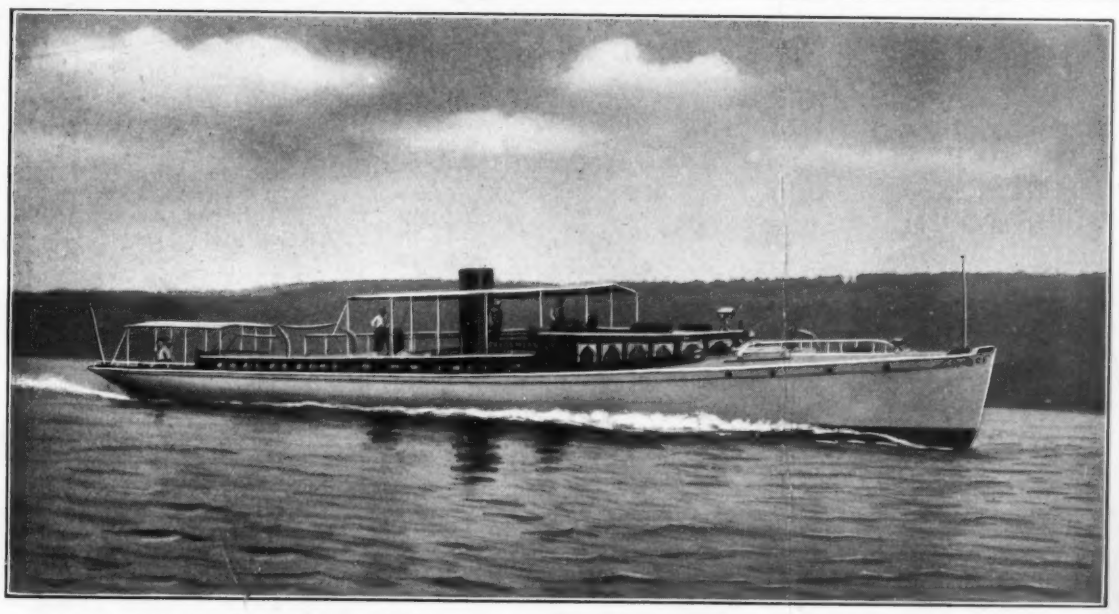
Chicago Salesrooms
1205 Michigan Ave.

NOW

is the time to place orders for Yachts and Launches for Southern Service next Fall and Winter.

Designs and Specifications submitted for any size or style.

"Speedway" Gasolene Marine Engines, 4 cycle type, 8 to 150 H. P. in stock.



NEW TRIPLE SCREW MOTOR YACHT "WHIRLWIND" ON TRIAL TRIP (1909)

Gas Engine & Power Co., and Charles L. Seabury & Co., (Consolidated)

Designers and Constructors of High Class Vessels for Pleasure or Commercial Service.
Seabury Water Tube Boilers and Marine Steam Engines.
The "only" Naphtha Launch.

MORRIS HEIGHTS, - - - - NEW YORK CITY

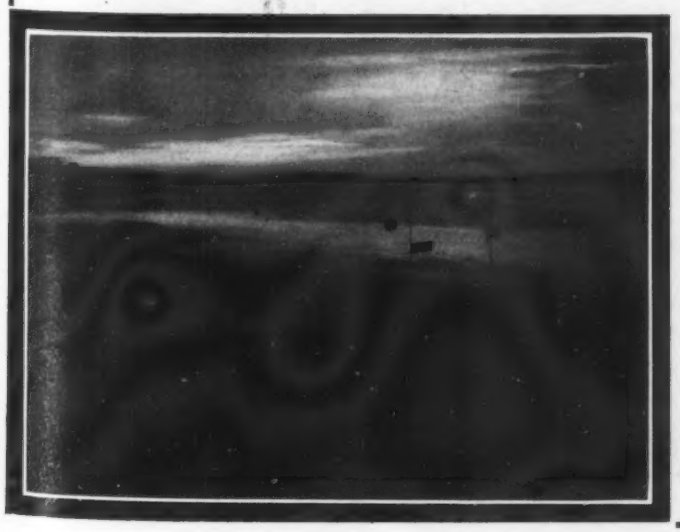
SEND FOR NEW CATALOGUE

Contents—September, 1909

VOL. 6. No. 3

Cover Design: - - - - - - - - - - - - OFF-SHORE CRUISING
Frontispiece - - - - - LONG ISLAND FROM THE DECK OF THE FLEET

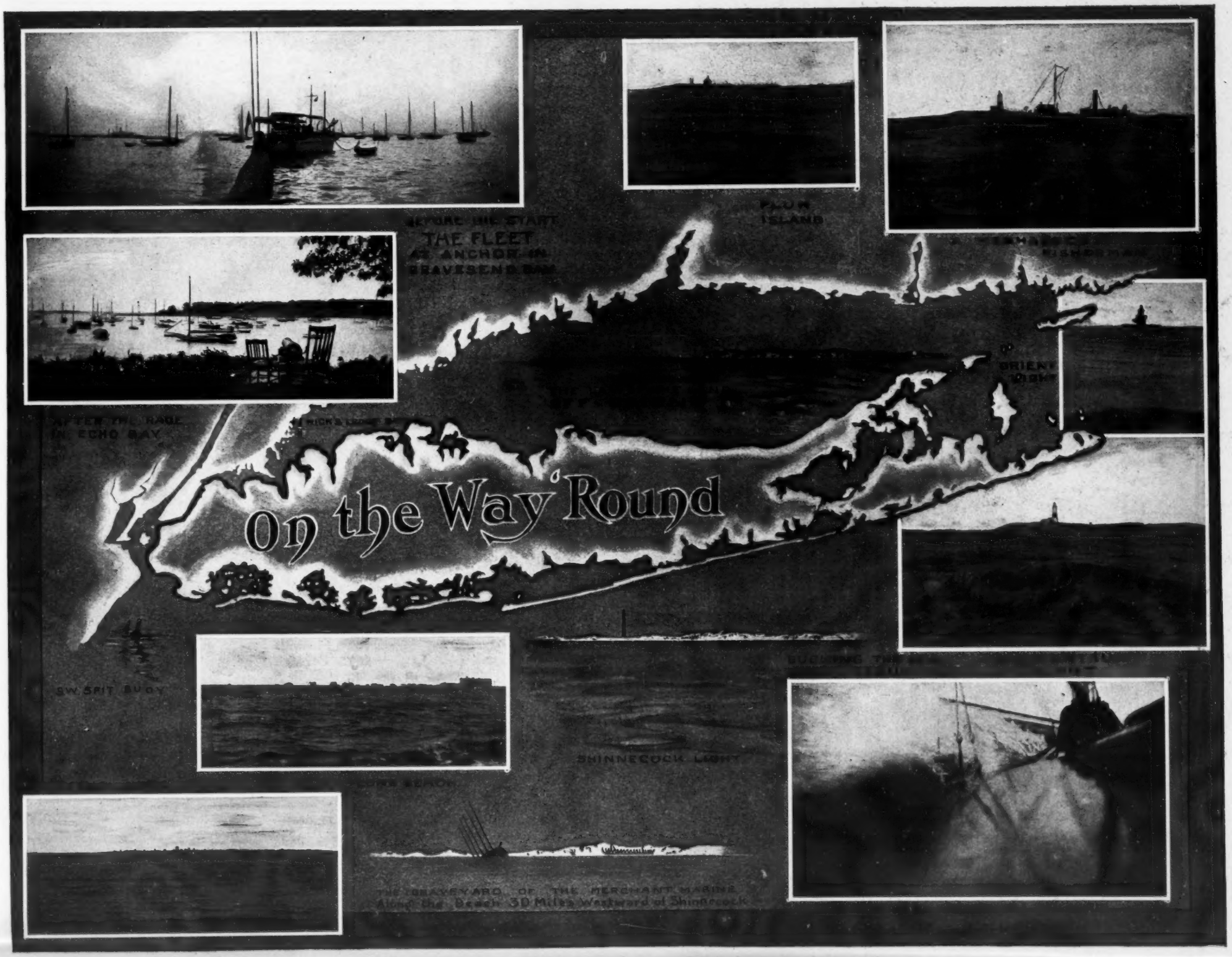
THE RACE AROUND LONG ISLAND FOR THE YACHTING CUPS - - - - - - - - - - - - - - - - 191
THE POWER BOAT RACE FROM BAY RIDGE TO MARBLEHEAD - - - - - - - - - - L. DE B. HANDLEY 197
THE MACKINAC RACE - - - - - - - - J. M. HANDLEY 201
THE NEW YORK YACHT CLUB'S LONG-DISTANCE RACE HOWELL C. TALBOTT 203
THE MONTH IN YACHTING - - - - - - - - - - 205
REOMAR - - - - - - - - - - - E. T. KEYSER 208
CRUISING IN OUT-OF-THE-WAY WATERS - STINSON JARVIS 210
INDIVIDUAL COILS vs. SYNCHRONIZED IGNITION HERBERT L. TOWLE 212
WIRE HAWSERS - - - - - - - - - F. W. WALLACE 214
MONTAUK AND GRAYLING - - - - - W. S. QUIGLEY 215
CRUISING FROM THE HUDSON TO LAKE CHAMPLAIN.—PART II - - - - - - - - - W. W. BRINKERHOFF 217
FLATTENING DOWN—WINSOME AND ISTALENA AT LARCHMONT - - - - - - - - - - - - - - 218–219
Photograph by E. Levick.
PILOT WATER NAVIGATION.—PART II COMMANDER C. S. STANWORTH 222
WITH SKIPPER AND ENGINEER - - - - - - - - 224
A 65-FOOT LAKE CHAMPLAIN CRUISER - - - - - - 225
A MASSACHUSETTS BAY 18-FOOTER - - - - - - - 226
140-FOOT STEAM YACHT MACHIGONNE - - - - - - 227
AN 83-FOOT GASOLENE YACHT - 228
WHAT IS THE MATTER WITH SENECA? - - - - - - - - - - - - C. H. J. SNIDER 230
BRITISH MOTOR BOATS - - - - - - - - - - - - - - - ROBERT MACINTYRE 231
EDITORIAL - - - - - - - - - - - - - - - 232
MOTOR BOAT SUPPLEMENT - - - - - - - 234–236–238
DRIFTWOOD - - - - - - - - - - - - - - 240
NEWS OF THE YACHT CLUBS - - - - - - - - 242



LAWRENCE PERRY, Editor
HERBERT L. STONE, Managing Editor
HARRY PALMER, Advertising Manager

Published Monthly. 25 cents per copy. $3.00 per year. For Foreign Postage add $1.00. For Canadian postage add 50c. Copyright, 1909, by Yachting Publishing Company. Entered as Second Class Mail Matter at the Post Office, New York, N. Y.

YACHTING PUBLISHING COMPANY, 20 Vesey Street, NEW YORK, N. Y



LONG ISLAND AS SEEN FROM THE DECK OF THE FLEET.

YACHTING

VOLUME VI. NUMBER 3 September, 1909 25 Cents a Copy $3.00 a Year

IN A VERY LIGHT AIR THIRTEEN BOATS WERE SENT AWAY ON THE LONG JOURNEY.

IN a season that has been noteworthy for the closeness of the finishes of the long-distance races, YACHTING's race around Long Island was no exception. After the long journey of 210 miles, 110 of which was a thresh to windward on the open sea, the three leading boats, after being in sight of one another for the entire trip, finished within 35 minutes of each other, while two more dropped across the line within the next hour and ten minutes.

The coming dawn was just chasing the shadows from the north shore of the Sound on August 2d, and the moon still hung in the western sky, when the watchers on the committee boat Triune made out a low, black sloop running down before the brisk, damp east wind, and almost before they could make out her identity in the semi-darkness, Nutmeg hailed, giving her name, and crossed the line at 4:14:39 o'clock. Astern of her, some two miles or more, was a white sloop, lugging a huge spinnaker, and 28 minutes 31 seconds later Crescent hailed the committee boat, while astern of her, but inshore, hanging to her doggedly, came the 22-footer Interim 7 minutes and 54 seconds later and near enough to wrest second place from the 30-footer on corrected time. It was a stirring finish to a great race, a race in which credit is due to every boat that sailed it.

Fourteen yachts were anchored in Gravesend Bay off the Atlantic Yacht Club on Friday, the 30th, ready for the start the next morning. Here they were thoroughly inspected by the regatta committee to see that each boat complied with the conditions of the race and had the proper equipment on board. There were boats of all types, from the New York Naval Reserve Cutter, with her stump lower masts and leg-of-mutton sails—for the first time entering a long-distance race—to the low, flat Nutmeg, with her enormous sail spread for her waterline length, and Messrs. Boucher and Granbery, of the committee, having charge of the race, had their hands full.

NUTMEG, THE WINNER, REACHING DOWN THE BAY.

Of the fourteen boats inspected, one of them, the Cricket, a little sloop only 24 feet 6 inches over all, very narrow and with low freeboard, was judged by the committee unsuited for the course, and was not allowed to start. While commending the spirit that prompted Mr. H. P. Wells, the owner, and his crew to enter, it was considered poor judgment to let her attempt the long course. Some of Mr. Wells' crew were accommodated in the other boats, and the Cricket herself followed the yachts down the Bay as far as the S. W. Spit. When the easterly wind freshened Sunday night and Monday forenoon, kicking up quite a sea off Montauk, the wisdom of the committee's decision was apparent.

Of the twenty-two entries received the following are the boats that appeared at the starting line, with their crews:

Ramallah, sloop, 44 feet 6 inches over all. E. H. Tucker, captain and owner; C. A. Marsland and R. M. Haddock, mates; J. P. Donovan, W. H. Wing, O. M. Pear-

LONG ISLAND AS SEEN FROM THE DECK OF THE FLEET.

SURPRISE DID WELL WHEN THE WIND FRESHENED.

INTERIM CREEPING INTO NEW ROCHELLE AT DAWN.

CRESCENT SLIDING DOWN THE SOUND AFTER PASSING PLUM GUT.

son, R. C. Anderson, crew, and A. B. Colcord, paid hand.

Mildred, sloop, 42 feet 5 inches. H. E. Geer, captain and owner; J. W. Thomas, J. W. Fisher, A. T. Nickerson, L. S. Haight and O. Ellison.

Crescent, sloop, 41 feet 8 inches. A. G. Hill, captain and owner; L. de B. Handley, Gay Bradt, R. Foster, W. Butler, Wm. King and A. Roberts.

Fearless, sloop, 41 feet 4 inches. Commodore B. R. Stoddard, captain and owner; A. Baxter, J. B. Smull, E. Fox, H. D. Cox and A. Cook.

Intrepid, sloop, 40 feet 5 inches. G. P. Granbery, captain and owner; J. H. Curtis, W. Davis, H. Reuterman and H. Robinson.

Victory, sloop, 38 feet 11 inches. Commodore H. A. Jackson, Jr., captain and owner; H. Page, S. Cochrane, H. Anderson and W. Fuller.

Nutmeg, sloop, 37 feet 10 inches. Allen C. Jones, captain and owner; L. Hooper, F. Schneider, G. Edgerton and G. West, paid hand.

Interim, sloop, 38 feet. R. N. Bavier, captain and owner; W. N. Bavier, Jr., C. Pierson, C. Barton, E. Bacon and Linden Valentine.

Wabun, C. B. yawl, 34 feet 8 inches. Henry B. Post, captain and owner; E. C. Cockey, F. E. De Murias and H. Van Wielder.

Altair, yawl, 33 feet 2 inches. H. L. Stone, captain and owner; C. H. J. Snider, E. W. Kendrick and Geo. H. Seeth.

Surprise, yawl, 31 feet. M. S. Kattenhorn, captain and owner; W. H. Young, C. F. Nield, A. Stone and R. S. Tobey.

Snug, ketch. Daniel Bacon, captain and owner; L. D. Huntington, Horace Bacon, A. B. Colson and D. E. Oak.

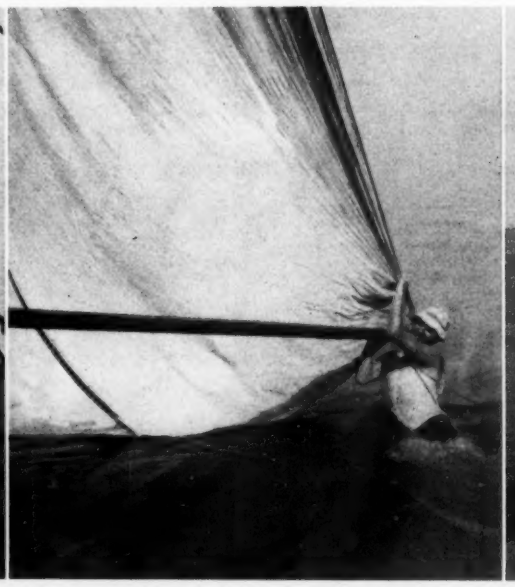
Naval Reserve Cutter. Lieutenant E. C. De Kay in command; crew, R. Jacob, W. E. Powers, E. F. Schneltz, H. Jenney and R. Carson, paid hand.

All the crews were up early the next morning to find a clear day for the start and a fresh breeze from the east of north. Sail covers were soon off and most of the boats were under way shortly after nine, overhauling light sails and sending up ballooners in stops, as it looked like a broad reach down the bay to the first mark. The start was postponed 15 minutes and just long enough to allow the northerly slant of wind to peter out, so that when the starting gun finally sounded there was hardly enough wind to stem the ebb tide and a number of the boats were carried over before the gun and had a hard job working back to recross. Nutmeg and Crescent slipped over first, nearly together, followed closely by Victory, Interim and Fearless, while the heavier boats, not feeling the wind, drifted over in a lifeless start. Abreast of Norton's Point the wind died out entirely and a dark streak along the water to the southeast heralded a breeze from that quarter. It reached the leaders shortly afterwards coming from the southeast. Booms were shifted to starboard for the reach to the S. W. Spit buoys, and presently the procession was headed down the bay, the heavy naval reserve cutter finding the breeze too light for her liking and bringing up the rear.

Some of the leaders not being familiar with the tides in the bay did not stand far enough to the westward and had to bear away to make the first mark. Harry Jackson's Victory, Surprise, Altair and a few of the others kept well over towards West Bank Light and were helped by the tide.

Nutmeg was the first to round the Spit buoys, followed by

WATCHING FOR MONTAUK LIGHT.



OVERBOARD FROM THE SPINNAKER BOOM.

HAULING OUT THE FOOT OF THE MAINSAIL.

INTREPID TOOK FOURTH PRIZE.

Interim and Crescent, and after a hitch inshore, she tacked and stood out past the Hook on what proved to be a fighting thresh with Crescent all the way to Montauk. Once past the point of the Hook the breeze held steady and true, though light, and Nutmeg went off towards the Long Island shore, fetching about Long Beach on the first leg. Crescent went about soon after passing the Hook and made a leg off shore, catching the first of the flood tide under her lee bow until she went around, and holding a good wind. When she and the Nutmeg came together again off Jones' Inlet, Crescent crossed the black sloop's bow by about half a mile. Interim was close behind and Intrepid, which was delayed at the start by crossing the line too soon and having to go back, was working down through the fleet in fine style and closing up on the leaders.

It was apparent at once that the fleet was divided into practically two divisions, the larger sloops, all of them over 38 feet in length, and the smaller yawls, from 30 to 34 feet long, and the two bunches began to separate at once. While the larger boats were fighting it out for the prizes and the glory, the smaller craft were having a battle among themselves, with never a look-in for the money. The Great South Bay yawl, Wabun, led the second division around the Spit buoys by a good margin, while Surprise, Snug and Altair turned it well bunched, with the Naval Reserve Cutter far in the rear. Once hauled on the wind, Altair began to leave Surprise and Snug and gradually overhauled Wabun, working out to windward and passing her off Rockaway at 1 o'clock.

Of the sloops, Fearless and Ramallah stood well out towards Ambrose Channel Lightship and seemed to profit by keeping off shore. Mildred, with her long topmast and topsail, was also doing well and was close up with the leaders at this stage of the race. The boats that had stood inshore had to come about off Long Beach and then began the long beat down the Long Island shore, which was not to end until Montauk was reached.

At sunset we on the Altair could make out the eight sloops ahead, the leaders hull down, and the others near enough to recognize with the glasses, while astern could be seen the yawls and ketch, with the cutter out of sight. The leaders were abreast of Fire Island about seven o'clock in the evening. Soon after sunset a full moon came up, and the sailing was delightful. About 10:30 the wind died down until there was barely steerageway and the boats sagged on the long swell, with sails slatting, while the thunder of the surf on shore could be distinctly heard two miles away. At 1:30 a. m. a northerly slant off the land lifted the boats along until near 4 o'clock, when it died away and after another two or three hours of light air, it came in again slowly from the old quarter, southeast, and as the day advanced, backed to east until it was a beat down the coast, with no advantage on either leg. The day was overcast and cloudy, but the sea was smooth until the late afternoon, when the wind freshened and with an adverse tide made lumpy going for the little fellows. By this time, however, the leaders were up to Montauk and it did not bother them. Crescent and Nutmeg went around the Point at 2 o'clock Sunday afternoon and, slacking sheets, began the long run down the Sound. Interim followed less than half an hour later, while Intrepid, having worked up to fourth place, turned at 3 p. m., followed by Fearless and Ramallah at 4:30 and 4:35 respectively. Victory was in sight of these last two, some miles back, while Mildred was out of sight astern.

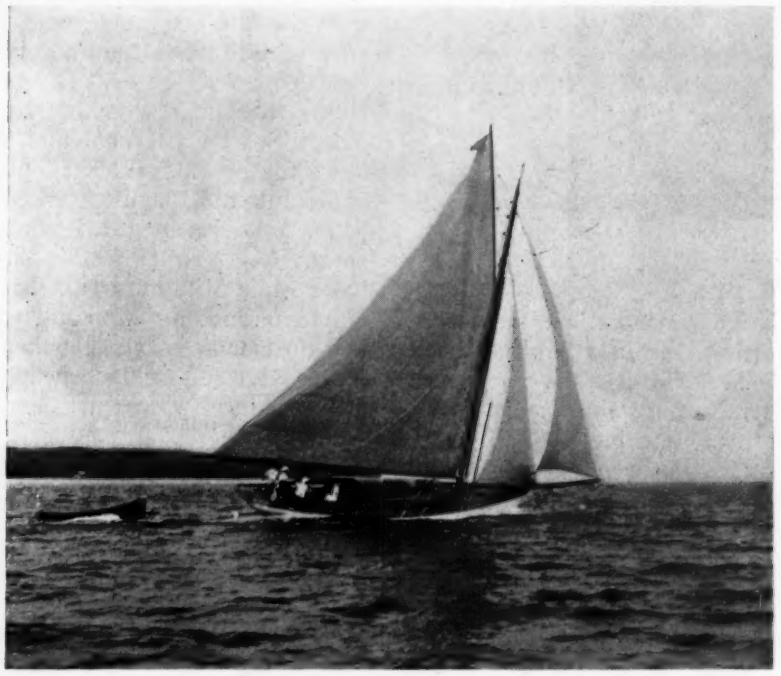
After rounding Montauk the breeze freshened considerably and the clouds looked as if they held more to come, and while the sloops were getting the benefit of this in their run, the yawls were still bucking it down the shore, meeting an adverse tide and a

FEARLESS WORKING PAST SANDY HOOK.

rising sea. On Altair, the leading boat of the second division, we did not sight Montauk Light until 9:30 that night, and with all the wind we wanted and a head sea we were seven hours beating the intervening 20 miles and did not round until daylight Monday, when we slacked our sheets for the first time in 42 hours and could lay our course. One of the crew pertinently remarked that instead of being designated the race around Long Island, it should have been called "110 miles to windward and return." The worst seas of the trip were met off Montauk, as the fresh northeast wind meeting the incoming tide made an ugly rip, and for about half an hour they were tumbling aboard from every direction. Snug and Surprise did not pass the point until that afternoon and Wabun not until 4:30 the following morning, the head seas not being to her liking.

To go back to the leaders, who were carrying all the sail they could crack on in the freshening wind, now astern of them, Nutmeg went through Plum Gut at 5:15 still followed by Crescent and the others in the order they rounded Montauk, and then began the long night run down the Sound which was to decide the winner. About 1:30 Monday morning a squall struck in from the northeast, but did no damage, and as day broke Execution Light could be seen ahead and the committee boat at anchor off New Rochelle. Interim had worked in towards the north shore of the Sound and seemed to gain by it, slipping in only seven minutes after Crescent, as has already been told.

On Ramallah they were having their own troubles, as the cotton in the garboard seams had worked out and the boat began to leak going down the south shore of the Island. Though her crew had to pump her out three or four times an hour to keep her clear, they kept on, hailing the Fearless, when the two boats came together, and receiving a promise from her to stand by in case the water gained too rapidly, in which event they were to signal her. The Naval Reserve Cutter only succeeded in getting as far as Shinnecock by Monday, when they were forced to give up and reluctantly headed back, arriving in New York Tuesday. The boats finished in the following order:



RAMALLAH.

	Saturday, Start.		Monday, Finish.			Actual Time.			Allowance.			Corrected Time.		
	H.	M.	H.	M.	S.	H.	M.	S.	H.	M.	S.	H.	M.	S.
Nutmeg	10	15 am	4	14	39 am	41	59	39	2	46	40	39	12	59
Crescent	10	15	4	43	10	42	28	10	1	10	48	41	17	32
Interim	10	15	4	51	04	42	36	04	2	42	30	39	53	34
Intrepid	10	15	5	18	42	43	03	42	1	42	04	41	21	38
Ramallah	10	15	6	05	26	43	50	26	..	..	..	43	50	26
Fearless	10	15	6	30	35	44	15	35	1	19	16	42	56	19
Victory	10	15	9	28	41	47	13	41	2	19	34	44	54	07
Mildred	10	15	1	32	07 pm	51	07	07	0	52	05	50	15	02
			Tuesday.											
Altair	10	15	12	24	05 am	62	09	05	4	58	00	57	11	05
Surprise	10	15	12	24	00 pm	74	09	00	5	45	27	68	23	33
Snug	10	15	12	39	00	74	24	00	6	02	00	68	22	00
Wabun	10	15	10	45	..	84	30	00	4	24	50	80	05	10
Naval Reserve Cutter	10	15	Did not finish.						8	05	30	..	..	

THE RACE FROM THE DECK OF CRESCENT

By L. deB. Handley

As an experience, the writer's trip aboard Mr. A. G. Hill's P boat Crescent, in the Long Island Race, certainly had the charm of novelty. It is surely an unheard-of thing for a crew to step on a craft entered in an ocean race half an hour before the start and find that not a thing has been done to prepare her for the event. Still, such were the conditions that met us on the Gielow sloop on that memorable Saturday morning. Mr. Hill, though an enthusiastic and expert sailor, has not the time to bother with the details of fitting out and leaves them entirely to his paid hand. As in this instance said paid hand had deserted without a word of warning two days before, not a finger had been lifted to get ready for the long cruise.

Thus prefaced, it will be understood that the mention hereafter of certain humorous little episodes is not made in a spirit of criticism, but at the suggestion of Skipper Hill and that others may profit by his experience.

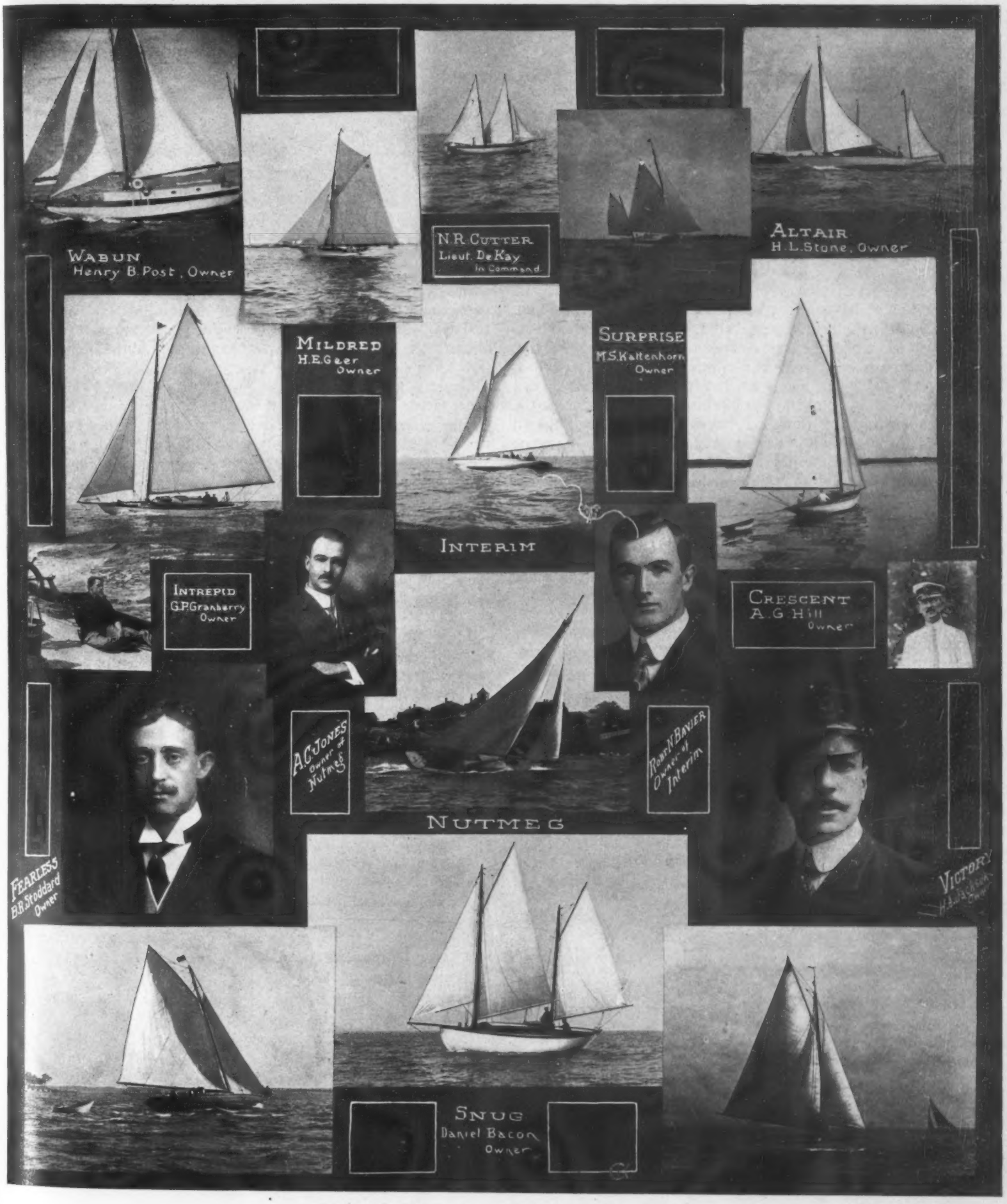
Six of us reported to the owner early Saturday morning, some amateurs, others not even that. One, for instance, boasted absolute ignorance of even the rudiments of sailing, and proved it, but he had a lovely disposition, weighed at least 250 pounds, and could tell really funny stories on the smallest provocation. Another member professed not to know a sheet from a halyard. Then came a pair of expert catboat handlers, who, however, found the forward end of a forty-foot sloop somewhat confusing, and lastly A. Roberts, a good sailor, who was to share with the writer the task of sailing and navigating. The skipper was heard to remark after the race that his boat had been a regular training ship for the crew, and there is no doubt that some of the men were given the full course.

The mainsail had barely been hoisted when word came that the starting gun would be fired at 10:15; so as most of the fleet was already under way, we ran up the jib and cast off the moorings. A suggestion that the balloon-jib be sent up in stops, for we could carry it on the first leg, was met with a "Go ahead" from the skipper, and I got it on deck. But the halyards refused to work. There was no time to be lost, so I climbed hastily aloft and there discovered that the halyard had been spliced below the block and would not run through. A thorough search below deck brought to light the astounding fact that there was not aboard a single bit of line long enough to be used as a halyard, and it became necessary to cut the old one and reeve it through again. Then, it didn't reach the deck and we had to add a piece to the other end.

We had crossed the line by the time this was done, and as it looked like a possible spinnaker run the big sail was routed out, but when it came to locating the guy another disappointment was in store. None could be found. In making one it took three pieces of the remnants to get the required length.

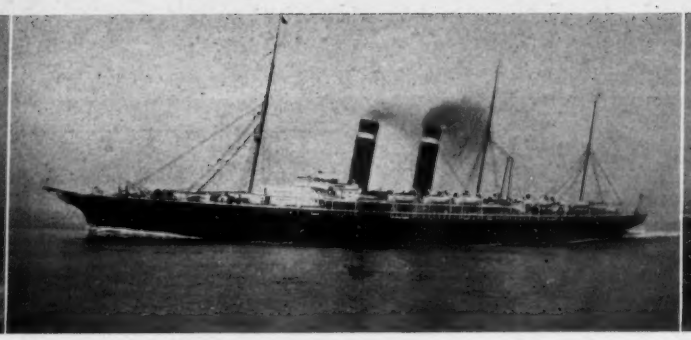
Meanwhile Nutmeg had been making hay. Quickly overcoming the advantage Crescent had gained in crossing the line first, she had taken the lead and while we wrestled with the ballooner she and the Interim had left us badly. At the first mark, Southwest Spit Buoys, Nutmeg had three minutes on us and Interim two. On rounding the mark we doused balloon jib and hauled into the wind, holding well up to our course because every sign pointed to a coming easterly. Nutmeg took a good full, instead, and while outfooting us fell rapidly to leeward.

In stopping up the ballooner we made another distressing discovery. There was no more yarn on board, or anything that could



SOME OF THE CONTESTANTS AND THOSE WHO SAILED THEM.

BARK PASSED OFF LONG BEACH.



THE S. S. PHILADELPHIA WAS MET WEST OF FIRE ISLAND.

SANDY HOOK PILOT BOAT NEW JERSEY.

be used instead, and in future light sail must be set flying. With a green crew it promised wonderful happenings. As we straightened out on the true course we found we could lay it, and by keeping to it we gradually worked to windward of the entire fleet, when someone began to worry and told Roberts we should be nearer the beach; but we had both seen the chart and held on. The wisdom of it was demonstrated off Long Beach, when at 2:50 Nutmeg had to go about. Ten minutes later we crossed her bow, nearly a quarter mile in the lead. She was being splendidly sailed, though, and it did not take long for her to close in on us. When she was nearly abeam Roberts became disgusted and gave me the tiller, but it was my first attempt at steering Crescent, and like all Gielow boats, she needs a practiced hand. For a while my work was a good deal worse than his; then I began to find her, a little experimenting with trimming sail helped some more and we began to hold Nutmeg. When we drew abreast of Fire Island Light at 6:45, Crescent had secured a fair lead and was well to windward besides.

A remarkable feature of the all-day duel, during which Nutmeg and Crescent sea-sawed back and forth, alternately gaining and losing ground, was Nutmeg's ability to walk away when the wind freshened, while Crescent invariably pointed higher and footed faster when the breeze fell. The harder it blew the better Nutmeg seemed to like it, and those who take her for a light-weather boat, easily beaten in a blow, will do well to revise their views.

A call for the binnacle light, at nightfall, elicited the startling information that there was none aboard. As the only lantern we had was of galvanized iron and sure to affect the compass, we had to ascertain the deviation as best we could. We thought we succeeded, but later events proved the contrary.

At 12:15 Shinnecock Light bore north, but shortly after a dead calm fell over the water and we had it for two hours, then the expected northerly sprang up and we lost no time in spreading ballooner to it. For about an hour we foamed along with rail awash, then followed another short calm and before daylight it came out of the east again.

Dawn showed no sign of land, although we should have been but a mile away, and realizing that the compass was to blame we swung around and headed for shore. At 6 o'clock the haze lifted and showed us the beach a couple of miles away, so we put about again and soon sighted Nutmeg a good bit ahead, but far to leeward. Interim and Intrepid were on the horizon astern.

The wind was straight along shore and gave us a dead beat. When Nutmeg and Crescent converged they were again close together and in a spanking breeze the duel of the day before was resumed. It was a wonderful race, with no great advantage on either side. In and out the two boats thrashed in the lumpy water, now alongside, now splitting tacks and far apart, but ever close together when they met again. At one time a bolt in our mainsheet tackle came loose and we had to rig a preventer to lift the strain before it could be repaired, whereupon Nutmeg got a good mile, but the wind fortunately petered out a bit later and when we reached Montauk at 2 o'clock we were to windward of her and not twenty yards back.

The breeze became so light here that we could hardly make headway against the tide, but someone expressed a wish for lobsters and without counting the possible damage a fisherman was hailed. He hung on to us with a heavy power dory for at least five minutes, and while it is idle to speculate on what we lost by it, Nutmeg slipped around the point and we had to tack to make it, though we had been to windward. When we finally swung after her with spinnaker and ballooner set she had opened up a lead of a couple of miles. This she held to the finish.

We passed into the Sound at 5:53 and did not alter our course until Horton's Point, wishing to enjoy the fat of the incoming tide. Then we jibed, set light sails again, and set out on an all-night spinnaker run that was simply glorious—bright moonlight, a slashing and true breeze and a delightfully balmy atmosphere.

The last rays of daylight showed Nutmeg two or three miles ahead, and Interim and Intrepid still side by side a couple of miles astern. The speed of the run is best told by the times logged. Horton's Point, 7:15; Oldfield, 11:25; Eaton's, 2:10; Committee Boat in Echo Bay, 4:43:10.

In commenting upon the work of the boats around us, most of which were manned entirely by amateurs, one can but speak in the highest terms of praise. The fleet was splendidly handled throughout and mistakes were conspicuously rare.

An account of the race from the yawl Wabun, the last boat to finish, will be found on page 250.

ROUNDING MONTAUK ON ALTAIR.

NUTMEG, AFTER FINISHING.

THE CUTTER FROM THE NEW YORK NAVAL RESERVE.

AT THE STARTING GUN THE ENTIRE FLEET LEAPED INTO ACTION.

The Power Boat Race from Bay Ridge to Marblehead

By L. DeB. HANDLEY

Photographs by the Author and E. Levick

THE annual race between New York and Marblehead, for motor boats measuring from 30 to 40 feet in length, was held this year under the joint auspices of the Crescent Athletic Club and the Eastern Yacht Club. It was started from Bay Ridge on the morning of July 17 and concluded in Marblehead Harbor during the early hours of July 19, when the Niobe, the last boat to finish, crossed the line.

To those who took part in the thrilling contest of 1908, when the boats battled for an entire night with as ugly conditions as one cares to meet at sea, this year's race was decidedly tame. More than one skipper was heard to remark that an event in which the weather was so favorable as to offset any advantage which knowledge and good seamanship might give in storms and fogs, was unsatisfactory, and one cannot but agree with this view.

The general history of the race can be told in a very few words. Twelve boats started and ten finished. The fleet enjoyed smooth water, light leading breezes and bright sunshine almost the entire way. Beyond Cape Cod some of the boats encountered a nasty squall and their crews received a drenching, but it was not the kind of storm that does serious damage and all weathered it nicely. The leaders escaped it entirely, finishing by the time it broke.

The portion of the course that owners most feared, from Sow and Pigs to Nauset Lights, was negotiated in broad daylight, on mirror-like water, and a child could have navigated it. A very different matter was it a year ago, when the boats coming from Marblehead struck Monomoy at night, in a dense fog, with a gale blowing head on and breakers crashing over the shoals. It took nerve then to attempt short cuts, and the two boats that risked them, Irene II and Eronel, finished first and second. This year everyone took the straight line and had no difficulty in holding it.

Of the twelve boats in the fleet Kitcinque was by far the speediest, and she made a splendid run of it until an accident put her out of the race. While crossing from Montauk to Gayhead she caught fire and, despite the heroic efforts of her crew, burned to the water's edge and sank. The cause of the accident was the stoppage of the gasolene fuel line. In forcing it free whatever obstructed it suddenly gave way and the gasolene spurted furiously out of the carburetor, catching fire. In a second the whole place was ablaze. Captain Bieling and his men made a great fight to save her, and at the peril of their lives stayed aboard after the flames had begun to threaten the big tank containing 200 gallons of gasolene. At one time they thought they had the fire under control, but later it broke out afresh beneath the cabin floor and, as the chemical extinguishers had all been used, the crew had to abandon the neighborhood before the tank became ignited. It was found that the dinghy would only carry three, so Frank Gheen, owner, M. M. Whitaker, designer, and Engineer Greenough manned her, while Walter Bieling, Fred Thurber and C. F. Chapman, the other components of the crew, were obliged to jump overboard. All that was put in the dinghy was a compass and some fresh water. In burning, the gasolene shot up in great

FIGURING TIME ALLOWANCES BEFORE THE START.

jets of flame, fully 150 feet high, and these were seen by the schooner D. J. Sawyer. Her captain rescued the Kitcinque's crew and sailed them into Vineyard Haven.

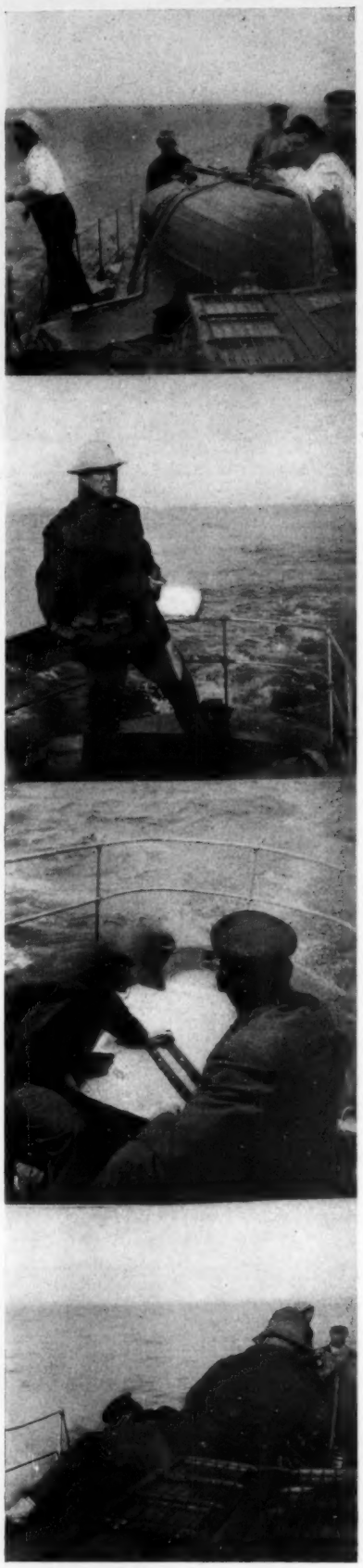
At the time of the mishap Kitcinque had a big lead on the next boat, the Josephine, and was holding the entire fleet by more than her allowance, so that she would probably have won had she finished. After her wreck Josephine assumed first place and maintained it to the end, sweeping by the committee boat at 6:36:45 in the afternoon, Nimrod followed at 7:04:30 and about an hour later came Sagamore and Lizzie L within forty seconds of each other. Some of the boats reaching Marblehead waters after dark found it hard to locate the harbor and lost considerable time; otherwise results might have proved different. At 10:54:25 Irene II crossed the line and shortly after 11 there came a group composed of Elmo II, Kittrois and Square Deal. Barbara finished after the committee had withdrawn and her time was not taken. On figuring allowances it was found that Elmo II had won, with Lizzie L second and Irene II third.

Elmo II, owned by F. C. Giles, of New York, was designed by H. W. Patterson. She measures 34 feet over all, 8 feet 6 inches beam, and has a draft of 3 feet. She is equipped with a 12-horsepower Standard motor. Her trip showed her to be reliable and seaworthy. In the heavy side roll that she had to negotiate from Cape Cod to Marblehead she behaved very well and the heavy sea affected her speed very little. Lizzie L, owner Charles O. Lailer, of Sommerville, Mass., was designed by Britt Brothers. She is 39 feet long and has 9-foot beam. Her engine is an 18-horsepower heavy-duty Standard. Irene II is well known as the winner of the 1908 race.

When all is told, and despite the excellent showing made in the early part of the race by Kitcinque, it is quite certain that a light half-racing hull, provided with a high-speed engine, is not the best for such a race as the New York-Marblehead. A craft of this type could not possibly be driven at anything like its best speed into a heavy seaway, and calm water on an outside course is the exception rather than the rule. In building such a boat one is simply gambling on the weather. A low-rating craft, with a low-speed motor, is much more likely to turn the trick, for she can hold her own in smooth water and carry very nearly her limit speed in heavy weather.

The following table gives a complete summary of the race:

Boat	Rating	Allowance	Finish	El. Time	Cor. Time
		H. M. S.	H. M. S.	H. M. S.	H. M. S.
Josephine	41.99	3:26:25	6:36:45	31:56:45	28:30:20
Nimrod	41.02	3:51:33	7:04:30	32:24:30	28:32:57
Sagamore III	35.11	6:50:01	8:06:50	33:26:50	26:36:49
Lizzie L	33.71	7:37:25	8:07:30	33:27:30	25:50:05
Irene II	30.52	9:50:25	10:54:25	36:14:25	26:24:00
Elmo II	28.87	11:07:30	11:07:25	36:27:25	25:19:55
Kittrois	31.04	9:27:37	11:09:20	36:29:20	27:01:43
Square Deal	40.43	4:07:08	11:09:21	36:29:21	32:22:13
			A. M.		
Barbara	29.00	11:02:46	12:59:02	38:19:02	27:16:16
Niobe	30.24	10:04:20	4:56:25	42:16:25	32:12:05
Northerner	36.86	5:53:24	Did not finish		
Kitcinque	52.66	Scratch	Burned		



WATCHING THE OTHER FELLOW.
A WELCOME SIGHT. HOT BREAKFAST SERVED ON DECK.
THE COCKPIT IS OFTEN THE MOST COMFORTABLE CHART ROOM.
SMELLS OF GASOLENE BELOW MADE THE DECK THE MOST COMFORTABLE BUNKING PLACE.

Coming now to the details of the race, we will take the reader aboard Kittrois and let him watch the contest from her deck. Although placed only fifth she made practically the entire run within hailing distance of Elmo II, the winner, and her log affords several valuable little lessons that power-yachtsmen will profit by learning. Now that results are known, the fact may be amusing that many expert motor boat men considered the Kittrois about as dangerous a rival as any entry for the Marblehead race. Her new 24-horsepower Campbell engine was said to give her a steady speed of between 10 and 11 miles and her low rating made it almost a certainty that at this clip she could not be beaten. Subsequent events proved that had she made 10, or even 9, she would have won hands down. Mindful of her excellent chances, however, I sought a berth on her, and, thanks to the courtesy of her owner, Mr. Henry Weissman, obtained it.

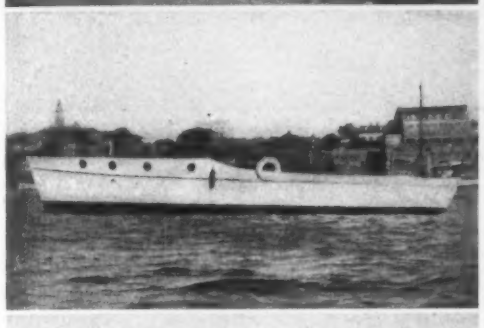
The race was interesting and the trip delightful. Little mishaps and misunderstandings there were aplenty, but with such a humorist as the owner aboard things smoothed out almost as soon as they happened. Mr. Weissman, who, because of his "Fighting Bob" tendencies we came to call the Admiral, had prepared thoroughly for the race and frankly said that he expected to win. He had secured the services of a sailing master of note, Captain Inch, to navigate his craft; the engine was in charge of an expert on motors, and there were well-posted understudies for both leads in "Bill" Bruns, the yacht broker, and Henry Combes, a lusty sailor, who usually has charge of Kittrois. With so much talent the writer found that his services would hardly be needed and, after being told that the navigator did not intend to leave the wheel at all at night, he meekly harnessed himself with the task of log keeping —not to be absolutely idle. How conditions can change in a few hours will be seen later.

When the preparatory signal was given at 10:35, every one of the twelve entries ran to within a few yards of the line, threw the clutch on the dead centre, and with buzzing engine stood waiting for the starting gun. It went off at 10:40, and immediately the entire fleet leaped into action, the Kittrois winning the honor of leading over, but soon being passed by the swifter boats, such as Kitcinque, Sagamore, Josephine and Nimrod. The Kitcinque outdistanced all others at an alarming rate and led a gradually lengthening procession out of the harbor.

Not many miles had been covered when the Northern was seen to swing around and head for home. We hailed her as she passed and learned that her clutch was out of order, and her owner thought best not to put to sea in a crippled boat.

A short distance beyond Fort Hamilton Irene II had to stop for repairs and was last before she got under way again, though they forced her for a while, regaining the lost ground.

Kittrois was not fulfilling expectations. We were supposed to be reeling off 10 miles at least, yet we found it impossible to gain on Elmo II, Barbara and Niobe, admittedly no faster than 9 an hour. The engineer was

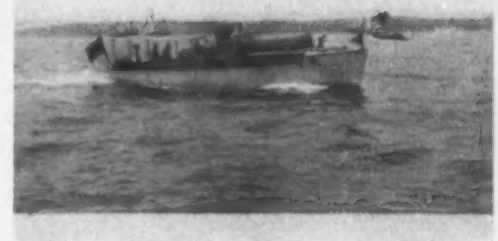


ELMO II AND BARBARA, SEEN FROM STERN OF KITTROIS OFF CAPE COD.
KITTROIS.
SQUARE DEAL.
LIGHTSHIP OFF EAST CHOP, VINEYARD SOUND.

sweating blood at his post and would occasionally produce a burst of speed, but only temporary, and the Admiral, in his blunt, jovial way, began to suggest that instead of advancing the spark to the limit and then having to slow down if an even, steady pace could be held, a better average would be made. The engineer reasoned that unless we could get more speed we were licked, anyhow, so he went on experimenting until off Long Beach the second cylinder became heated and had to be stopped. Running on three cylinders we fell still further back, and things began to look hopeless. TheAdmiral stormed and the Captain began to lose heart, going so far as to say that it might be advisable to put into Newport and not finish at all. Two of us fought this suggestion. No race is won or lost until the line is crossed, and stranger things have happened than the tail-ender landing victory. The Admiral is a fine sportsman and said he'd finish if he had to row in.

At the start of the race the weather had been bright, the sea calm, and the wind moderate. As we struck the open the breeze freshened, and a following roll, in which it was very difficult to keep a straight course, began to run. We had it until late afternoon. At 3:15 we passed Fire Island Bell Buoy, and five minutes later came upon Square Deal, apparently disabled. We ran alongside with an offer of assistance, but heard that they had only stopped to fix a broken steering gear, so we went on. At 3:50 Fire Island Light was abeam and the four cylinders were again buzzing pleasantly in unison, taking us up gradually on our slower opponents. The Admiral's wisdom in not wanting the spark advanced too far in so long a run was evident, and the point should be remembered.

We were congratulating ourselves on our steady advance when the engine suddenly stopped short. A hasty investigation showed nothing worse than a disconnected wire and we were soon off again. By 7 o'clock Shinnecock Light was in sight, and we had drawn alongside of Elmo II. At 8:30 the light was abeam and Elmo well astern. The night was starry and beautiful. A fickle northwesterly breath just stirred the water, but the roll had not quite subsided, and, when it came to cooking the evening meal, Henry found that he had to stay and hold the pan over the stove, but the combined effects of gasolene, engine grease and food forced him on deck. We then discovered that the engineer was a resourceful chef. He went below, supposedly to oil the bearings, but came up shortly after with as Lucullian a repast as was ever enjoyed aboard a motor boat —beans, soft-boiled eggs and coffee. The inner man satisfied, I inquired about night watches and was told that the Captain intended to steer and navigate all night. Realizing that it is a wise man who takes sleep when he can, on an ocean race, I sought a luxurious berth with resignation, and by 10 o'clock had forgotten all troubles.



KITCINQUE LEAVING THE FLEET IN THE NARROWS.
JOSEPHINE MADE THE BEST ELAPSED TIME.
NIOBE.
ELMO II, THE WINNER ON CORRECTED TIME.

According to the engineer's mental log Montauk Light was passed at 12:25, and the light on the S. E. end of Block Island at 2:30. He frankly admitted the times were approximate, but he told us a good one on the Admiral, so we forgave him. The silence of the night evidently made the engine sound as if it were speeding up, and Mr. Weissman began to take heart.

THE CRESCENT ATHLETIC CLUB, FROM WHICH THE RACE WAS STARTED.

"By golly, but she's spieling," he kept whispering to himself, and then, watching a white light ahead: "Look," he'd say excitedly to the engineer, "see how much clearer it's getting; we are gaining fast on them." And the engineer would smile delightedly and grease the motor some more. Thus the thing went on, the light becoming clearer and clearer until it proved to be the Block Island Lighthouse. Then the Admiral swore.

A hot argument, punctuated with language of a vivid hue and now and then with polite personalities, awoke me about daybreak. I hastened on deck to see what was going on, and found the Admiral having a bit of fun with the Captain. He was telling him that, if his course had been good, we would have beaten all three boats that could now be seen about us. The Captain, taking it seriously, was hot under the collar, and cussed the engine, whereupon the engineer took a hand in the fray, and it ended in the navigator expressing his opinion that the boat had never had a chance, anyhow, and that he was going below, and the owner could take hold of the boat himself. He stuck to his post until we had reached Vineyard lightship, however, and then, with a few more comments, sought a bunk, a thing that I could not regret very much, for I was getting a bit tired of being ornamental only.

It was 6:45 when the boat was turned over to us and we were then to the north of the lightship, instead of to the south, as I had been wanting to lay the course from Montauk to West Chop, but the difference was not very great and I hoped to gain on the others in the run from West Chop to Chatham. Barbara was well out, and I knew she would beat us to West Chop, but Elmo II was astern and seemed to be following us.

Here I made a sad mistake. Not knowing the Admiral's ideas, and having heard that the Kittrois had lost her skeg the day before in striking a rock, I consulted with Bill on the advisability of taking the shortest course over the shoals and risking going aground.

"I don't know," he said, doubtfully, "Mr. Weissman might take it nicely, and again he might not. You see it's rather risky without a skeg."

I realized that it was and suggested that we cut corners enough to save most of the angles, yet keeping in absolutely safe waters, and not say anything about it. He thought this the better plan, and we took an almost straight line, passing abeam of Hedge Fence Lightship at 9:20, Cross Rip 10:25, and Shovelful 11:40. Barbara and Elmo II went absolutely straight, and gained enough to be ahead when we came together off Monomoy, but it was a very slight lead. The Admiral had noticed the course, however, and spoke about it.

"Why didn't you go over the shoals and cut the distance?" he asked, considerably irritated; and he was even more put out when we told him why. He was right, too; we should have known he was willing to take chances with anyone.

A couple of feet of tide allowed us to go safely inside the red buoy off Chatham, and then we ran in and hugged the beach as close as we dared. With leadline going all the time we ventured in closer and closer, and, although we were seldom further than 50 yards from shore, we found a steady depth of from 8 to 15 feet of water. On this stretch Barbara and Elmo II stayed further out and suffered the ill effects of rougher water and head tide, so that by the time we reached Nauset Lights, at 3:05, we had assumed the lead; they then fell in our wake and we could not shake them. At 4:35, when Highland Light came abeam, we were holding conversation with both our rivals.

On emerging from the shelter of Cape Cod we ran into a brisk wind and a heavy side-roll out of Massachusetts Bay that was most uncomfortable. It was almost impossible to stand up to it. Around 8:30 a squall broke over us and it was so furious that even oilers didn't keep one dry. The head wind drove the rain into one's face until it was hardly possible to see the compass, and for a while it was bad going. Then the rain stopped, the stars came out, the wind dropped, and everything was serene.

The engineer, who knew Marblehead Harbor well, had appointed himself look-out, and about 9:30 he discovered a light, which he told me to head for. Our course, allowing for wind and waves, was NW. ¼ N., and the light lay due north, so I protested that it could not be Marblehead. But he insisted; and as we had had a 44-mile run without picking a mark, I saw the possibility of being wrong, and unwillingly gave in. It was another mistake. True, I sought the chart before making the change, and thought I had located the red flash on Gloucester breakwater and the twin lights on Baker's Island, but I later found that the twin lights were probably those on Thatcher's Island, visible over the land, and that we were running down on the Baker Island ones, which in the direction we saw them appeared to be one.

When we discovered the mistake, the Admiral expressed, forcibly, his opinion of local geographers and patriots who didn't know their own harbor, but the error was excusable, and the patriot certainly knew his ground, as he proved in taking us to the finish line across as fine a nest of rocks as ever I want to see at night.

As we slowed up to go through the rocks, Square Deal and Elmo II came down on us asking directions. Elmo II put about and, circling Baker's Island, found her way to Marblehead light, leading us in. Square Deal followed us through the rocks and finished alongside. Barbara was heading for Gloucester when we last saw her, but found her mistake in time to be in before morning.

The Mackinac Race

By J. M. HANDLEY

Photographs by R. H. Hall and G. H. Atkin

FOR the second time William Hale Thompson's beautiful schooner Valmore has carried off the Mackinac trophy of the Chicago Yacht Club, awarded to the winner of the Chicago-Mackinac race, the greatest long-distance cruising race on fresh water and emblematic of the supremacy of the Great Lakes. Last year Mr. Thompson brought Valmore out from the East, with the avowed purpose of winning this classic event, and he succeeded. This year ex-Commodore William L. Baum, of the Chicago Yacht Club, eager to recover the splendid cup for the organization he represents, went East after a schooner to beat Valmore. At least that was not his declared purpose, although, underlying the reports that a big cruising boat, on which Dr. Baum could live comfortably during the summer months, was his object, it was realized that he had the Mackinac Cup in view when he bought Amorita.

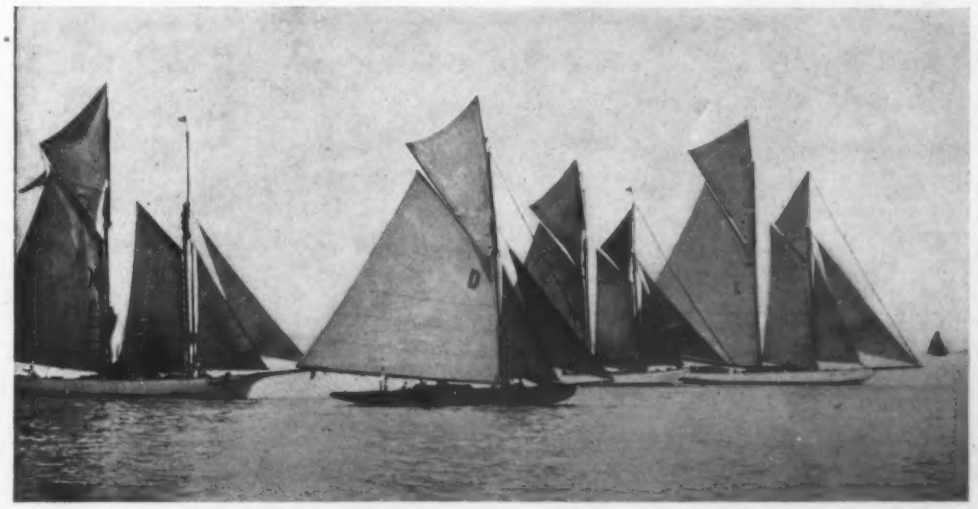
THE 35-FOOT SLOOP ILLINOIS, WHICH FINISHED THIRD IN THIS YEAR'S RACE.

Last June Dr. Baum sailed his big schooner in the Bermuda race, and, while he finished first, he lost the race on time allowance. In the Mackinac race he suffered the same fate, for, although he finished first past the line, Valmore, with her allowance of over two hours, won the event on corrected time.

There are two features which have stirred up the yachtsmen in this renewal of the famous yachting event of Chicago's leading yacht club. The first was the remarkable race between Valmore and Amorita, which were never out of sight of each other in the whole run of nearly 400 miles, and the other was the effect that the entrance of such big boats as Valmore and Amorita will have on the future of the race. These two schooners so completely outclassed everything else in the fleet of 11 yachts that they had it out entirely between themselves. Vencedor, twice winner of the cup and the most dangerous competitor, was 11 hours behind Amorita, and Hawthorne, the first of the old-time schooners to finish, was 15 hours behind the leaders. The smaller boats finished nearly 48 hours later. The coming of these big boats will either result in the acquiring of a lot of new and powerful yachts by Chicago sailors or in the cutting down of the fleet next year to such an extent that it will become entirely a big-boat race.

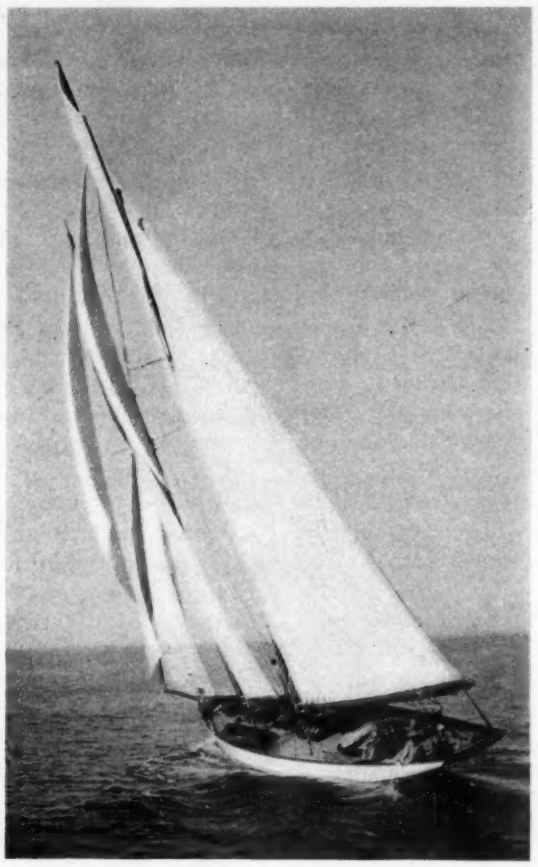
Vencedor may never sail the race again. The famous old mahogany fin keel that has made more yachting history on Lake Michigan than any other boat that has sported canvas on these waters, has about served her term of usefulness, and will probably join her sister ship Vanenna, which has practically been retired. Both boats have been sailed very hard under great strains, and are beginning to show the effects of it. To place them in condition for sailing next season would undoubtedly entail a greater expense than they are worth. Vencedor has been one of the most consistent and brilliant performers on the Great Lakes ever since she was first launched by the Racine Boat Company. She has won hundreds of cups and trophies for her various owners in all kinds of contests against the fastest boats that could be turned out. Should she be retired, her glistening hull and taper spars will be missed in local yachting events, for she is known wherever Lake sailors congregate, and was always considered a factor, no matter in what company she started. That she finished so far behind Amorita and Valmore is an indication of the fact that she is at last outclassed, for she was well sailed throughout. It also points to the fact that the rules which force sloops to allow yawls and schooners of to-day 15 per cent. allowance, on account of their rig, is no longer a fair rule. The highly-developed modern schooner, as exemplified by the two boats at issue, can sail as close and foot as fast on the wind as the modern sloops. And the yawls of to-day, with their long overhangs, are not penalized by their rig to any such extent as the rule provides for. This matter will probably come up for discussion at the future meetings of the local organization, and echoes will doubtless reach Eastern shores, although there is less competition there between mixed fleets than there is in these waters.

Local yachtsmen were disappointed at the lack of foreign entries for the Chicago Yacht Club's long-distance cruising race, the only yacht owned outside of Chicago to start in the race being the little yawl Nahma, owned by Francis Campbell, of Grand Rapids, and sailing under the colors of the Macatawa Yacht Club. It had been hoped that at least one of the three big schooners from Toronto would be here, and Toledo and Detroit were counted on for one or two more entries, but owing to the conflict in dates with the lower lakes regattas, these boats did not put in an appearance, and the race again developed a purely local character. The start was made



START OF THE MACKINAC RACE—AMORITA, HAWTHORN, VENCEDOR, MISTRAL.

Saturday afternoon, July 24, across a line between two buoys anchored off the breakwater due east of the yacht club, and a great gallery assembled to see the 11 boats safely over the line. Five schooners, 4 sloops, ranging from the big Vencedor to the little Seeboomook, and 2 yawls came up to the line and, when the starting gun boomed, so closely did they go over together that it was almost impossible to tell which really had the benefit of the start. Mistral missed the outer buoy in going over and was ordered back by the judges, which delayed her a few minutes, but the other boats went over lined up as though in squadron formation. Naniwa and Vencedor, flying the colors of the Columbia and Chicago Athletic Association respectively, had the windward berth, but little Illinois had the honor of slipping over first in the long grind down the lake. As they crossed the line, nearly every boat in the fleet broke out balloon canvas, the easterly wind allowing them to set a course for the South Manitou Island. Valmore had the best of the start over Amorita and, with a huge balloon maintopmast staysail set, soon began to run away from her bigger rival. The very light air did not seem to be enough to get the Baum schooner going, and she was steadily dropping behind, although leading the rest of the fleet. Gradually, as the wind freshened, Amorita began to pick up on her rival and, when the fleet of excursion steamers turned back to Chicago off Evanston, Amorita was logging fast. Here the judges on Ogden McClurg's steam yacht Sea Fox, drew ahead and set a course for Point Betsie. As the sun dropped to the horizon, the breeze freshened and gradually drew around to the southard, finally settling down to blow steadily from the S.S.W. Spinnakers broke out almost simultaneously on both Valmore and Amorita, and the duel became more earnest. The freshening breeze carried Amorita up to Valmore, and, by 10 o'clock at night, they were abreast racing like a team, straining every bolt and line, and logging it off at a great rate. At a little after two in the morning, the wind hauled back into the south, and it was found necessary to jibe. Valmore, which was astern getting the slant first, set the example, which was followed soon after by Amorita.



VALMORE, THE WINNER, REACHING FOR THE FINISH LINE.

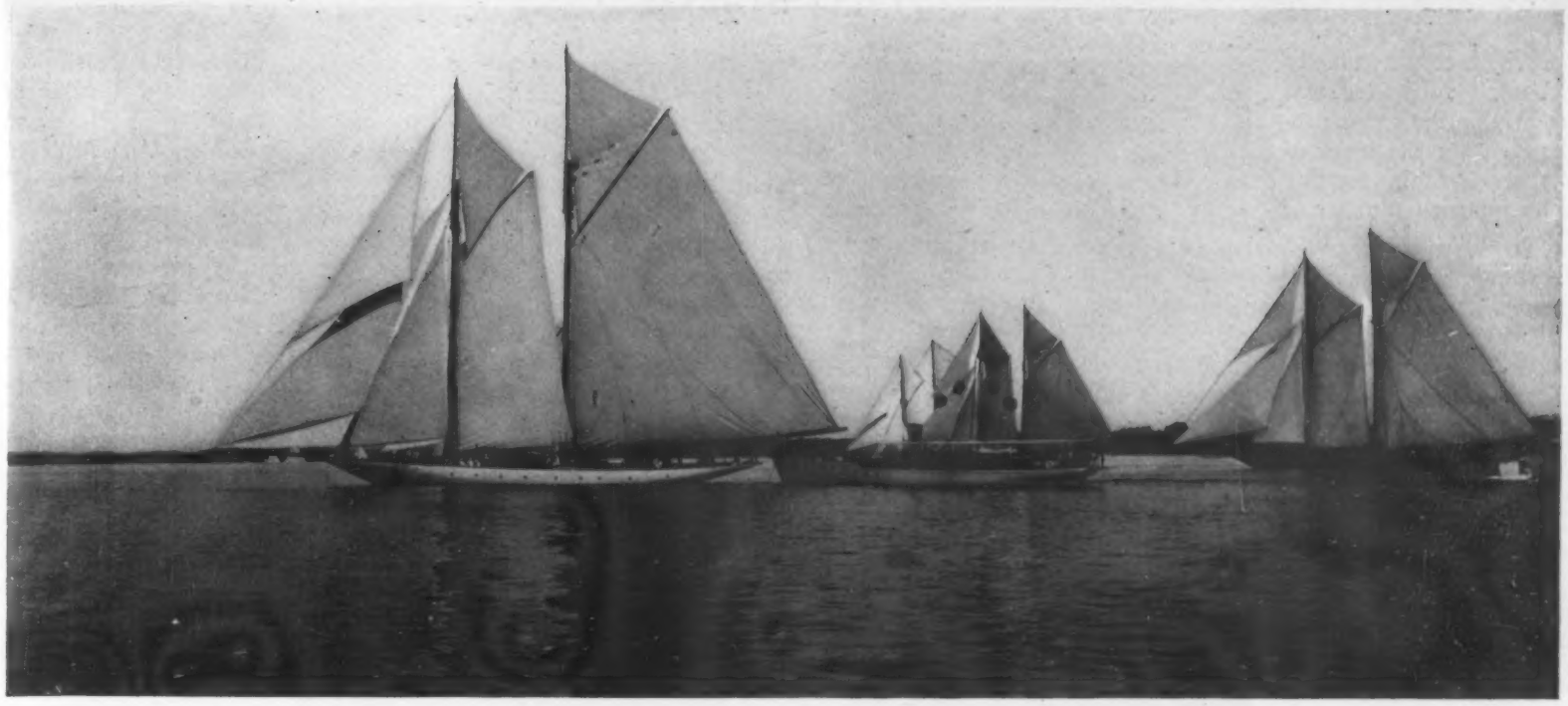
An hour more and the wind hauled further to the east, and spinnakers were doffed on both boats, which were plainly in sight of each other throughout the night. At daybreak the wind shifted again, and both boats set their spinnakers. Soon after breakfast had been served to the crew of Amorita, which had been kept on deck all night, Little Point Sable was sighted off the starboard bow. This landmark of the east coast was soon slipping away, and the smoke of Ludington caught the horizon. Valmore, further inshore than Amorita, picked up a favoring slant of wind and forged ahead, but the Baum schooner soon caught the breeze and, passing Great Point Sable, the big two-stickers were abreast and doing nicely under a light breeze from the shore. The wind freshened, and again Amorita forged ahead a little. The wind kept on freshening, and when the leader passed Manistee she had a lead of over a mile on Valmore. At 7 o'clock Frankfort was off Amorita's starboard bow, and, the wind having hauled to the South, spinnakers were set on both boats. Off Point Betsie, the steamer Manitou, bearing a crowd of Chicago yachtsmen and their friends, passed the two leaders and cheered them on their way. After rounding Point Betsie and setting a course for the Manitou channel, spinnakers were shifted, and a splendid run across the big bay, between Point Betsie and Sleeping Bear Point, caused Amorita to gain fast on Valmore. Entering the passage soon after dark, Amorita fired her Coston signal to notify the life saving station on the island of her identity, so that she might be reported to the yacht club headquarters at Mackinac Island. Running through the Manitou passage at racing speed, with every stitch of canvas drawing and the huge spinnaker pulling like a thousand horses, Amorita had an accident that probably cost her the race. The lift on the spinnaker boom parted and the big spar and enormous spread of sail dropped into the water. The boom snapped in the middle and the sail was torn to ribbons before it could be rescued. The loss of time in clearing away the wreckage and the loss of the great sail allowed Valmore to shoot past Amorita in the darkness, and when day broke, with the two boats just off Great Beaver Island, Valmore was sighted over a mile ahead. Meanwhile the spinnaker boom had been cut down with axes and a splice made in it, the balloon jib was set as a spinnaker and the long, stern chase to catch Valmore, began in earnest. At 6 o'clock Skilligalee Light was abreast, with Valmore's lead slightly cut down. The dangerous run from Skilligalee to Waugeschance Light still further reduced the distance between the pair, and, before coming abreast of St. Helena's Light, a luffing match had begun that was one of the sensations of the race. Bahr finally succeeded in shooting Amorita through Valmore's lee, and, using his big, square maintopmast balloon staysail as a spinnaker, he ran down to Graham's Shoal Light, gaining fast on the Thompson schooner. Rounding Graham Reef gas buoy, Bahr dropped his spinnaker and set his balloon jib, romping in to the finish first over the line by five minutes.

Amorita was given a tremendous reception by the crowds on shore, and in tugs and yachts at the finishing line, word having been sent out that the leading yachts were at hand. Valmore's reception was none the less hearty as she flashed over the line at 9:33 a. m., winner for the second time of the great race.

Although the time made by Valmore and Amorita does not approach the record made by Vencedor when she finished the race in a fraction under 37 hours, still, considering the light quality of the wind, it was exceptionally fast. Curiously enough, the record run made by Vencedor was the result of another desperate duel between Vencedor and Vanenna. Vanenna had the race well in hand, when, in trying to avoid jibing in going past Skilligalee Reef, the big single-sticker piled up on the famous rock ledge and saw the fleet drive past her in a southwest gale that had held the boats all the way from the time they had cleared Chicago harbor.

Vencedor was the third boat to finish in this year's race, arriving a little after eight in the evening, Hawthorne, Illinois and Alice finishing shortly after midnight close together. Mistral came in early Tuesday morning, followed by Naniwah and Seeboomook, and late Tuesday night Naiad arrived, followed soon after by Nahma. Valmore was awarded the Mackinac trophy and

(Continued on page 244.)



START OF THE SCHOONERS IN THE RACE FROM GLEN COVE TO NEWPORT.

The New York Yacht Club's Long-Distance Race

By HOWELL C. TALBOTT

Photographs by E. Levick

IF ever a hard-working and thoroughly efficient regatta committee had cause to complain of the injustice of this hard, cold world, it is that which represents the New York Yacht Club at the present time. Consider the matter yourselves, ye shellbacks, far and wide, and then tell me whether or not there was warrant for the dark-blue objurgations which flowed over the rail of a trim, lithe steam yacht yclept The Limited, on July 7 last, when a handful of yachts, comparatively speaking, gathered off Matinicock Point to start in the New York Yacht Club's long-distance race to Newport.

Now, it will be remembered that in the old days the boats of this club used to race on New York's lower bay. So large were the entry lists that entrants, speaking a bit broadly, were sometimes congested in the Narrows like logs in a Maine river, and so general was the enthusiasm that a large steamboat was annually chartered to carry spectators to the scene. Drab days eventually came. The annual regattas were shifted to Glen Cove, the entry lists steadily dwindled, and the spectators could have been carried in a 35-foot power launch.

Now the present regatta committee, which consists of three very energetic citizens, to wit, H. de B. Parsons, W. C. Kerr and Ernest E. Lorillard, decided to put an end to this stagnant condition of affairs, and among other creditable innovations calculated to stir the racing members from the lethargy which had settled upon them, they decided to hold in place of the little, placid merry-go-round, into which the annual regatta had degenerated in past years, a real, live race.

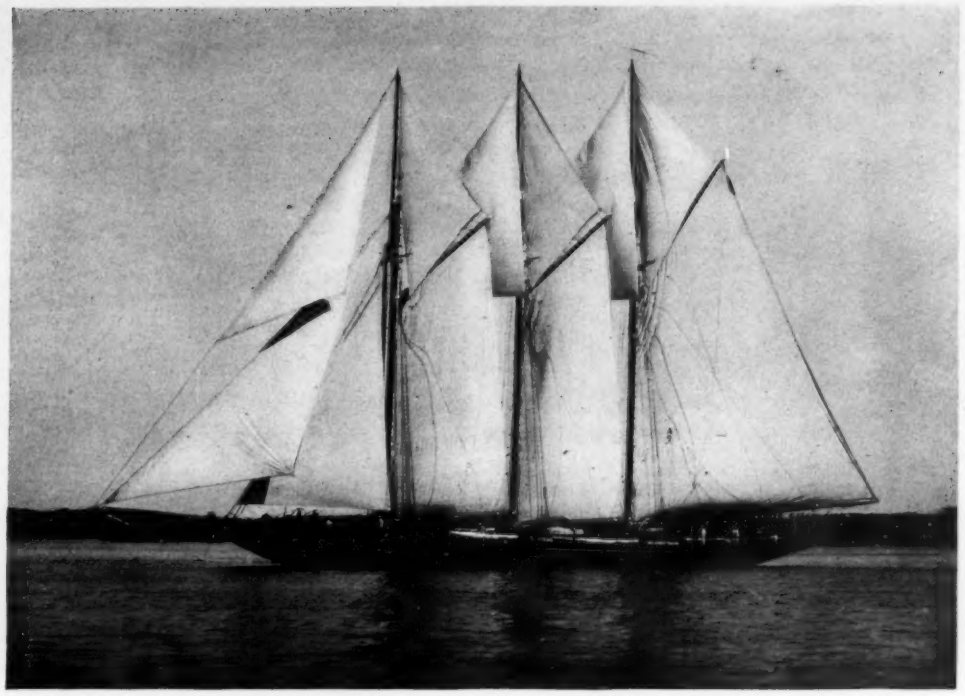
THE TALL ALOHA CARRIED ALL HER KITES.

From Glen Cove to Newport, 111 miles, was the schedule, with two races off Newport, and then a race back to Glen Cove. Pretty good, eh? Well, you may imagine there was some rattling of New York Yacht Club dry bones and rumblings about shattered traditions and the like. But it went, nevertheless, because the club has a Commodore who approves of progressiveness—and all the real, red blood in the club was back of him and his regatta committee. So far, so good.

Now for work. The regatta committee perspired blood, so to speak, in an effort to awake racing members to the alluring race in store for them. And what did the members do? Why, they said hurrah, and slapped the regatta committee on the back and told them they were the best ever. Oh, yes, of course they would start their boats! Surest thing in the world! Two nights before the race the committee felt warranted in stating that auxiliaries aggregating three thousand tons would start, to say nothing of simon-pure windjammers, large and small.

Well, the day arrived. The regatta

committee on their boat, The Limited, was early on the scene, prepared for the work of their lives in starting an immense number of entrants. But they need not have worked themselves up unduly; there were just sixteen boats on hand. Let us write them down, so that the more sport-loving members of the club may be accorded the recognition they deserve. They were, then, Cord Meyer's sloop Altair and Mimosa III, with Edward F. Cole on board; H. G. S. Noble's sloop Irondequoit; E. C. Ray's sloop Dorwina; Cornelius Vanderbilt's Aurora, sailed by W. B. Duncan, Jr.; G. M. Pynchon's Istalena; Charles Lane Poor's Weetamoe; of schooners there were Dallas B. Pratt's Sea Fox; Cleveland H. Dodge's Corona; R. P. Doremus's Lasca, a prime old ocean racer, and L. J. Callanan's Eclipse. In the auxiliary classes were Wilson Marshall's transatlantic champion, Atlantic; A. C. James' Aloha; N. L. McCready's Enchantress and George F. Peabody's Iris.



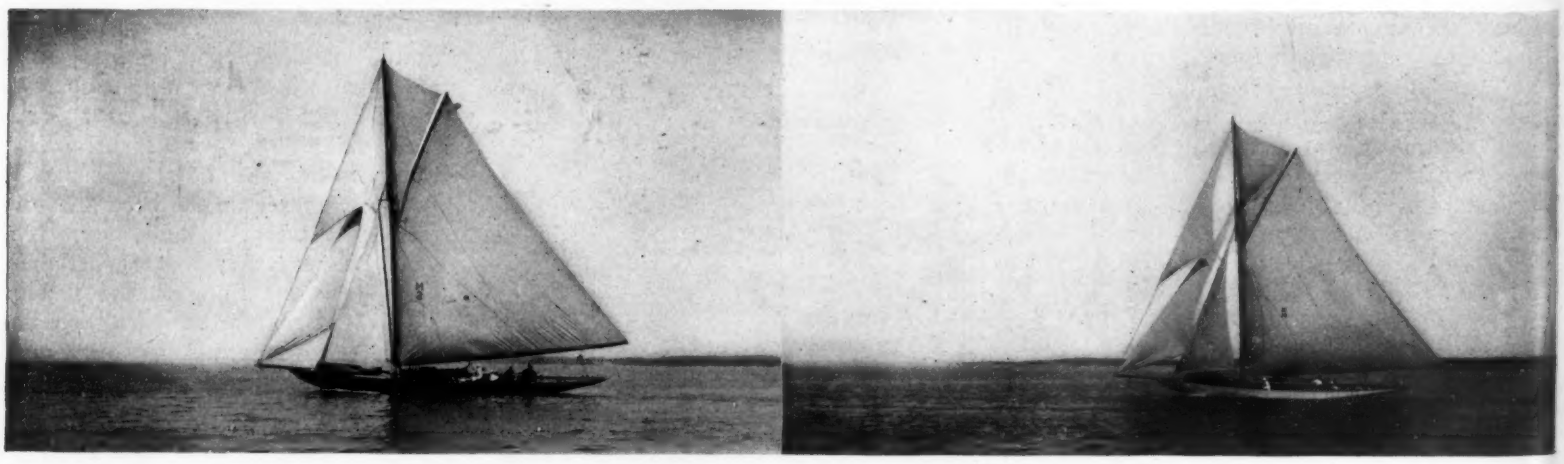
THE ATLANTIC IS STILL THE FASTEST OF THE AUXILIARIES.

In the morning there was a fine northeast wind, but by the hour set for the start, one o'clock, the wind had died to a mere catspaw, still holding desperately from east by north. And so the racers loafed around killing time. They presented a beautiful picture with their multifarious rigs and their spotless sails, and there were enough of them to make the scene impressive. We do not wish it to be understood that the entry list of sixteen boats was paltry. The point we attempted to make was, that in a club upon whose rolls are registered 606 yachts, the showing was not what it should have been—and, by the way, not what it would have been had men who had promised to participate kept faith with the regatta committee.

As it was, the start was picturesque, despite broken promises and hard feelings arising therefrom. The signal for the first class sounded at 2:25 o'clock, and Altair, under working canvas, was first away. Then Dorello (which raced but was ineligible for prizes because she did not have a member of the New York Yacht Club aboard) followed and, after her, the rest of the sloops. Aurora led the larger sloops over the line; Dallas Pratt's Sea Fox led the schooners, and the great, three-masted Atlantic was in the van of the auxiliaries. The towering wind-jammer, with her great mass of canvas and slick, black hull, went along in the mild airs as though she were greased, and Commodore James' Aloha, with her tall, square sails on her foremast, added a touch of romantic interest to the spectacle. The course lay through the Sound, passing south of Faulkner's Island, and thence through the Race, past Block Island and Point Judith to Brenton Reef lightship, off Newport. There was prospect of the wind shifting to southerly by nightfall, in which event the yachts would have a fair wind to carry them eastward. By dusk the racers were scattered all over the horizon.

At 7.20 o'clock the next morning, with a westerly breeze blowing, Corona swept by the Brenton Reef lightship, the first of the squadron of racers to finish. Ten minutes astern came Aurora, ending a really fine performance. Through the night Mr. Duncan was on deck, but Stuyvesant Wainwright held the wheel a part of the time. Their experience was a placid, starlit one. The waters were smooth, and, although the breezes were wayward, there was air moving gently all the time. Throughout the hours preceding midnight Aurora led the fleet, but after one o'clock, with a brilliant moon climbing up into the sky, the watchers on the beautiful sloop made out a dull blur astern.

Nearer it came, and at length Corona's night signal was made out. She had come up with a freshening wind. Eventually, Aurora caught this wind, too, and then began a memorable struggle for the lead, while the stars whitened in the east and the moon grew pale in the pallid hints of dawn. On they tore. The



IRONDEQUOIT AND DORWINA, THE SMALLEST OF THE FLEET, FURNISHED KEEN SCRAPPING.

east grew brighter. Pearly tints appeared on the clouds and the waters turned from sable to gray, and then to blue. It was a fitting setting for such a contest. Aurora tore along for all that was in her, but Corona, with her larger sail spread, was not to be denied, and before the first rays of the new sun glanced over the waters she had passed the Vanderbilt sloop and was soaring away for Brenton's Reef with a clear lead.

Atlantic followed Aurora. She is a great, heavy boat, and the weather was more suited to her lighter opponents. As it was, she was first in her class, and that was all she was out for. Atlantic, with a large company of experts and retired naval officers on board, met with the varying winds reported by the other boats and utilized almost every variety of sail in negotiating the journey. The first good breeze was at 3:30 o'clock in the morning, from the northwest, and Atlantic carried it to Point Jude, where she ran into a soft spot, which tied her up for a long time. Istalena followed Atlantic in, and after her came the sloop Weetamoe followed by the schooner Sea Fox. Altair finished at 8:31; Dorello at 9:19; Mimosa II at 9:16; Irondequoit at 9:31; Dorwina, 9:33; Lasca, 10:55; Eclipse, 11.10; and Aloha, 11:45. The time of Enchantress, which brought up the rear, was not taken.

The race held next day, Friday, July 9, under the auspices of the Newport Yacht Racing Association, was a clinker. Nine yachts were entered, among them J. Rogers Maxwell's schooner Queen, whose presence added materially to the interest in the contest, despite the fact that she sailed against a craft by no means her match, Corona. There was a fresh northwest wind blowing when the racers put out to the line, but the start was delayed an hour—an old New York Yacht Club failing, by the way—by which time the wind had shifted southwest and was blowing gently. The three 65-footers, Winsome, Istalena and Aurora, started in Class K, and beside this trio and the two schooners there were the sloops Dorello, Altair, Dorwina and Irondequoit. The course was a thirty-seven mile triangle, involving a reach, a beat and a reach. Winsome started out bravely and held the lead in the large sloop class until well on the windward leg, when she was passed by her two rivals, Istalena and Aurora. These two made as game a windward fight as has been seen off Newport in a long time. It was give and take all the way, with the advantage going finally to Aurora, who turned the windward mark in the lead. But it was not a great lead; Istalena took after her on the reach home, footing like a torpedo boat. So close was she that the two sloops finally got into a fierce luffing match. Off they went, clear out of their true course, so that when the mark drew near, Aurora had to jibe to get into a position to cross it. As she swung her boom over the topmast snapped, as topmasts will do at times upon occasions like this; the club topsail tumbled down and the balloon jib sagged into the water. Things were quickly made snug, but Istalena, who meanwhile had jibed safely, reached past the

(Continued on page 246.)

The Month in Yachting

Photographs by E. Levick and James Burton

SHARING honors with the Mackinac Race as the chief yachting event of July, Larchmont race week of 1909 fulfilled every tradition of that time-honored carnival of fast boats and shellbacks.

Judge John Procter Clark, who in addition to being an eminent jurist is a keen yachtsman, stood on the verandah of the club on the day of the third race of the series—Wednesday—and glanced with delight over such a scene as one sees on the waters of the Sound only when the Larchmont Club is holding its week of racing. Wherever the eye turned there were sails—little sails, big sails, and trim hulls beneath slipping through the waves like things of life; there were yawls and schooners and sloops of every class, from the "Bug" boats and those of the *Sonderklasse* to the big 65-foot single stickers, with their towering jackyarders. And thus seeing, Judge Clark turned to the Rocking Chair fleet with kindling eyes and exclaimed:

KITCINQUE, A RADICAL DEPARTURE IN LONG-DISTANCE RACERS. SHE WAS BURNED ON HER INITIAL RACE.

"They say the day of the sailing yacht is passing! Well, there are just 112 boats racing out there; that does not indicate any great amount of decay."

Judge Clark never signed a truer opinion. It certainly did not suggest decay; on the contrary, it indicated that the game of racing, with wind power as the propulsive medium, was never so popular as to-day, and it demonstrated, what many discerning persons have always maintained, that the power boat may wax in public esteem as it will, but it will never crowd the canvas-driven racer to the wall. There is room for both and a lot to spare for aeroplanes or anything else that in years to come may speed on the waters, in the skies above or the subaqueous depths below.

On only one of the five race days did the number of entries fall below one hundred, and upon that exceptional occasion there were ninety. Now, the Larchmont Yacht Club may well be proud of this showing, and, for a moment, it might be well to determine why every regatta held off Horseshoe Harbor, whether included in Race Week or not, is a record breaker. For, surely, "there is a reason."

First and foremost, I suppose, Larchmont draws because the small boat is not neglected in favor of craft of the larger classes. Every man who enters a race there, no matter how small his yacht, is certain to find two or more opponents—generally more—and the prizes for which he races are by no means paltry. And every consideration is shown the small boatman. No matter how busy Messrs. Tower, Perrin and Carroll of the regatta committee may be, they have always time to answer the questions of some little "bug" boat skipper who has come prepared to race but does not know exactly what to do. There is a fair field for all. The big yachts are started first and got out of the way, and then the small boats are started, with just as much attention to detail as in the larger classes. Then, the courses are sportsmanlike, arranged in length according to the size of the divisions—31 miles for the large sloops and schooners above 45 feet water line; 23 miles for Classes L.

M and N; fifteen miles for the Q boats, and so on down. The result is that there are finishes all afternoon, beginning at, say, 1:30 o'clock, and consequent interest for those who sail and those who witness the regatta.

Then, of course, there are such inducements for visiting yachtsmen as are included in a hearty welcome to Larchmont and a desire on the part of every club member to make visitors feel not only at home, but very much at home. This is an art, but it is worth while for any club to cultivate it, because it pays.

As for the racing, it was of the very best. Larchmont weather has, in process of time, come to be taken as a synonym for all that is wholesome in the way of breezes, but there never was a Race Week with so many fine racing days as the one in question. Saturday, July 17, there was a cracking wind; same on Monday. Tuesday was Ladies' Day, no racing. Wednesday there was a rattling breeze at the start, but it died out. This was the one bad day. On Thursday there was a wind which increased all day. Friday there was a gale—no racing on account of rain—and on Saturday there was another good wind. Recapitulation shows that on every race day but one the wind blew strongly—a record worthy of preservation in red type.

Of the 65-foot sloops—the most important yachts entered in the races—Winsome started out well on the first day by winning the race. Istalena broke her topmast, and Aurora did not do at all well. She more than made up for this on Monday and on all other racing days, winning every regatta. The best race which these boats sailed was on Thursday, July 22, when, with a southwest wind breezing on, the trio had their great struggle for supremacy on the second and windward leg of the triangle. The art of beating was never more beautifully exemplified by Corinthians, who in the present instance were Cornelius Vanderbilt, at the wheel of Aurora, G. M. Pynchon, at the wheel of Istalena, and H. F. Lippitt, at the wheel of Winsome. Nip and tuck it was for half an hour, with tack following tack, one boat crossing another's bow, until at last, with Istalena eliminated as a factor on this leg, Aurora skipped across Winsome's bows, clinched the weatherly berth, jibed around the windward mark and ran for home with a clear lead. In the last regatta of the week, Saturday, July 24, Aurora broke her topmast, but had such a fine lead that she finished the first round ahead, despite her accident.

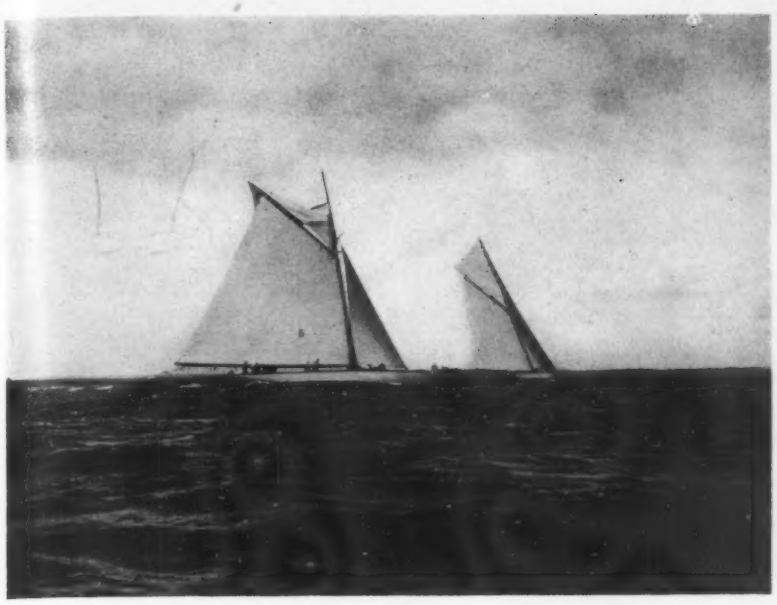
Aurora won the series in her class, making twelve points in the five races sailed. Winsome was second with nine points, and Istalena brought up the rear with eight points. In classes L, M and N, Dorello received twenty-two points, and Gardenia twenty-one. In the New York Yacht Club one-design class Phryne was the winner with thirty-one points, and Atiar with twenty-one, and Nautilus with twenty, followed.

Mimosa III won in Class P. She was the sloop which was last year beaten by the Indian Harbor Yacht Club challenger Seneca in the race for the Manhasset Bay cup. Naulahka, the sloop which Herreshoff built this year to race for the Manhasset Cup, failed to defeat Mimosa III, in which all well wishers of the American Yacht Club syndicate, which own Naulahka, read an augury of her future defeat by the boat which William Gardner is building as defender of the cup now held by Indian Harbor. Mimosa III made sixteen points; Naulahka made fourteen. Dorothy won in the Larchmont 21-foot class with a record of twelve points. Princess, the winner in Class Q, made seventeen points. More Joy, the new Herreshoff Q boat, was second with twelve points. All in all, it was a bad week for the "Wizard of Bristol." The American Yacht Club raceabout Cliphora won in her class with twenty-six points, and Cricket was second with nineteen. In the Handicap Class the following results were recorded:

First Division—Marguerite and Duchess tie with eighteen points each. Handicap class, second division—Fearless, first, twenty-six; Intrepid, second, 21. Handicap class, third division—Busy Bee and Rascal tie with nineteen points each. Handicap class, fourth division—Mist, first, twenty-nine; Kenosha, second, twenty-four. Handicap class, fifth division—Arrow, first, nineteen; Miss Modesty, second, fifteen. Sloops, class R—Hoyden, first, thirty; Ogeemah, second, twenty-four. Manhasset Bay one-design—Althea, first, sixteen; Ardette, second, twelve. Glen Cove one-design—Catseye, first, thirty-five; Ruby, second, thirty-one. Manhasset Bay knockabouts—Pixy, first, sixteen; Avis, second, twelve. New Rochelle, one-design—Mischief and Virginia tie with eighteen points each. Port Washington, one-design—Zip, first, seven. Sloops, Class S—M. and F., first, twelve; Pester, second, ten. Catboats, Class S—Iney, twenty-three. Riverside cats—Gitty, eleven. Bug class—Big Bug, forty-three; Skeeter, forty. American Yacht Club dories—Tautog, first, thirty; Sweer, second, eighteen points.

A CLOSE START. THE RACING AT LARCHMONT WAS CHARACTERIZED BY FRESH BREEZES.

Captain Phil Elsworth, who died a month or so ago, was a man of whom all patriotic Jerseymen should be proud. The brother of Captain Joe Ellsworth, who sailed two America's Cup defenders—Puritan and Mayflower—to victory, he himself was a noted creator of swift yachts. He was not a professional designer, but worked over his boards mainly for friends, among whom, it is evident, were many who knew a genius when they saw one. His first success was the fine schooner Comet, produced



AURORA LOSING HER TOPMAST ON THE LAST DAY OF LARCHMONT RACE WEEK.

in 1874, and such famous old racers as Kangaroo, Grayling, Penguin, Gertrude and Atlantic, together with the steam yachts Cora and Fedalma, followed. He began designing boats before the Civil War and the success of his catboat Plug Ugly attracted attention. W. H. Langley got him to design Comet, and every one familiar with the yachting of the seventies remembers what a fine craft she was. Commodore Samuel T. Platt had him design Montauk, and for Latham A. Fish he evolved the schooner Grayling. He was an interesting man to meet and to talk to, and to many to whom he was an encyclopedia of past yachting lore his loss will be irretrievable. Another famous old-timer departed not long after Captain Elsworth—John P. Hawkins, the City Island shipbuilder. He constructed many a good boat in his day and had a temper of his own, which many a pompous, unsuspecting yacht-owner aroused to his sorrow.

Up on Charlotte Harbor, Seneca is not keeping up her habit of winning all races. It will be remembered that Herreshoff built her in 1907 as defender for the Canada's Cup, held by the Rochester Yacht Club. She succeeded, defeating the Payne challenger Adele quite easily. Addison Hanan bought her and took the boat down to Long Island Sound, where she defeated Mimosa III, the American Yacht Club defender, for the Manhasset Cup. Rochester Yacht Club members repurchased her in time to effectually dampen the ambitions of the Royal Canadian Yacht Club, of Toronto, to have another try at the trophy. She has been racing this season in Rochester Yacht Club regattas with the old Canada's Cup champion Iroquois as her chief rival. While successful at times, she has been beaten by the older boat, which fact encourages the belief that she is not the swiftest boat of her class that can be built. And yet, on the other hand, the ill-success of Naulahka, which Herreshoff designed for the American Yacht Club syndicate as challenger for the Manhasset Cup, might be taken to argue just the opposite. Discussion had better be deferred until we see what William Gardner's new P boat Huhsaris will do against Naulahka in the Manhasset series next September. As it stands, it is dollars to doughnuts Seneca could beat the American Yacht Club's hopeful.

Valmore's victory over Amorita speaks volumes for the skill displayed by the skipper of the winning boat, William Hale Thompson, and some credit, too, must be given to the new suit of Ratsey sails which Valmore carried. For my part, I do not believe that Bermuda race helped Amorita much. Certainly she would have had more time for tuning up on Lake Michigan had she kept out of the salt-water journey. In connection with this race they are telling a story on an enthusiastic yachtsman who chanced to be hanging over the ticker when word came that Amorita had finished five minutes ahead of Valmore. He hurried to the 'phone and got A. Cary Smith, designer of Amorita, on the wire.

"Congratulations, Mr. Smith," he cried, "Amorita won the Mackinac Race."

Now Cary Smith is wise in his day and generation.

"Is that so," he said, "How much ahead was Amorita?"

"Five minutes," was the reply.

"Aha!" said that eminent designer, who in sport sometimes signs his letters "Smit." "You know, Valmore had nearly two hours' allowance."

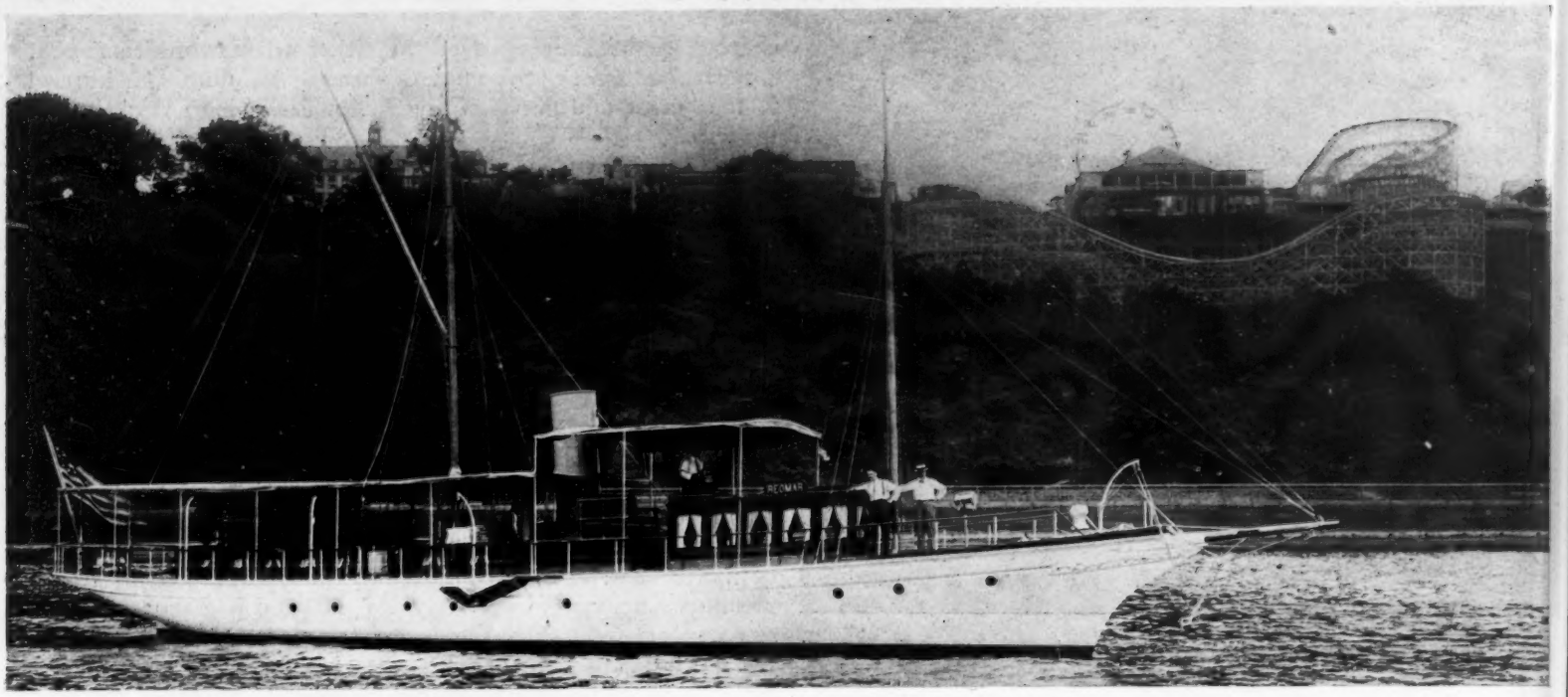
The informant sagged from the phone.

The loss of Kitcinque by fire in the Bay Ridge-Marblehead race has left it for another season to solve the problem as to whether the advantage of extreme speed in a cruiser of this type—gained by the installation of large motive power at the expense of cabin accommodations—is sufficient to warrant the building of this type of motor boat. Produced avowedly for the purpose of trophy winning, Kitcinque was cleverly designed and splendidly equipped as regards power. That there was strong probability of her proving the fastest boat of her class there was every evidence during that portion of the race which she completed. Whether, however, her success would or would not have been of benefit to the sport of long-distance racing at this stage of the game is a matter for the power boat owners themselves to decide before the contestants in next year's Marblehead race go to the line.

While in no wise decrying the knowledge and skill that the production of such a boat called forth, or the sportsmanship of an owner who would go to the expense which the building of such a boat entails, it seems, in our opinion, that she was long on power and short on real cruising comfort, too much so, in fact, to give any sort of a chance for the out-and-out cruising boats who might be pitted against her. Her continued success would have resulted in either a reduction of the number of entrants of the older types or have caused their owners to discard really serviceable boats in favor of a type lacking in both the extreme speed of the racing boat and the comforts of the cruiser.

The three days' joint cruise of the Seawanhaka-Corinthian Yacht Club and the Corinthian Yacht Club of Philadelphia was a most enjoyable affair and furnished some keen racing from Oyster Bay to Newport, where most of the boats joined the New York Yacht Club fleet. For the entire three days the wind was easterly, which meant windward work, and a number of hard races were sailed with close finishes, the yachts in several of the classes being well matched. Most of the Long Island Sound racers were there and a number of the Philadelphia boats.

THE NEW HERRESHOFF "Q" BOAT, MORE JOY.



THE 90-FOOT GASOLENE CRUISER REOMAR, WHICH CONTAINS AS MUCH AVAILABLE CABIN SPACE AS A 125-FOOT STEAM YACHT.

Reomar

A CONCRETE EXAMPLE OF HOW THE GASOLENE MOTOR MAKES POSSIBLE THE ACCOMMODATIONS OF A 125-FOOT STEAM YACHT IN A 90-FOOT BOAT

By E. T. KEYSER

Photographs by courtesy of Cox & Stevens

THAT the amount of comfort and luxury which were once considered almost solely the prerogative of the steam yacht or the larger sailing craft is now being obtained in the motor boat, with the same attention to design and details of equipment, is demonstrated by the recent improvements in this latter type, and is particularly exemplified by a number of noteworthy boats which have gone overboard during the current year. Among these, as showing the most marked advance in this direction, may be mentioned Reomar, whose plans appeared in YACHTING for last November.

Reomar is a 90-foot gasolene cruiser, designed by Cox & Stevens for Mr. R. E. Olds, of Lansing, Mich., and was launched on May 1 at the yards of the New York Yacht, Launch and Engine Company, of Morris Heights, New York City. As will be seen from her photograph, she has all the characteristics of a clipper-bowed, trunk-cabin steam yacht, with the round yacht stern. With her schooner rig, funnel, forward deck house and side port lights, she might be easily mistaken for a steam yacht. As a matter of fact, however, in her 90 feet of over-all length she has, due to the economy of space possible with a gasolene motor, the living accommodations of a steam-propelled craft of at least 125 feet over-all length. Moreover, it is possible to run her quite easily with a crew of five men and officers, while a steam yacht, with the same accommodations, would require a crew of at least ten men.

In building her, it was her owner's desire to have a boat that could be relied upon to make long-distance cruises, without regard to weather conditions, and one that would permit of comfortable living aboard in Southern waters, where plenty of ventilation and light draft are prime requisites. She has already demonstrated her seaworthiness in the long journey to Detroit, via St. Lawrence and Great Lakes, and her owner proposes to use her in Florida during the coming winter.

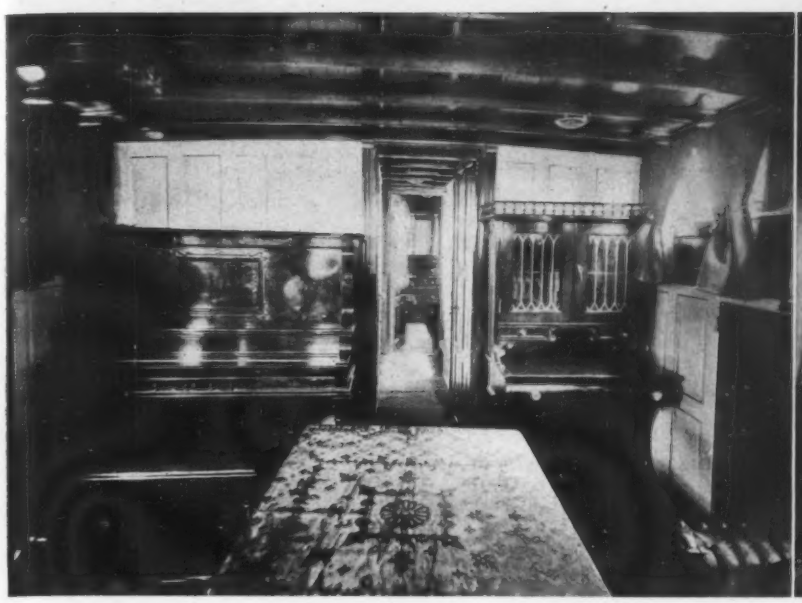
In addition to her power plant of two 20th Century engines of 30 horsepower each, she has a schooner rig, which allows her to spread an area of 1,000 square feet of canvas distributed among four sails consisting of foresail, mainsail, jib and main staysail. This rig is really practical, inasmuch as she can make with it, in a fair breeze, a speed of 5 knots under canvas alone. Her engine gives her an actual cruising speed of 10¾ miles per hour.

The principal dimensions of the craft are as follows: Length over all, 90 feet 9 inches; load waterline, 74 feet 3 inches; beam, 14 feet 6 inches, and draft, 3 feet.

Her forward deck house, finished in selected mahogany, is used as the dining room, and a feature of this saloon is the handsome sideboard against the after bulkhead, one side of which may, when desired, be converted into a folding berth.

Her saloon, under the extreme after end of the cabin trunk, and just aft of her engine room, is finished in selected mahogany, and contains a large center table and a desk of really serviceable size. The staterooms, which are situated amidships, are finished in enamel with mahogany furniture, and each contains a built-in berth, with drawers underneath, a large dresser, bureau, and upholstered seat and a commodious wardrobe. They are also provided with folding wash basins. These cabins, an illustration of one of which is shown, are exact duplicates. Another stateroom, almost equally well furnished but of slightly smaller dimensions, is located further aft, and opposite this is a bath room with full-size tub, such as would have been considered a luxury in the largest steam yachts a few seasons ago.

The engine room is calculated to fill with envy the presiding genius of the corresponding compartment of a steam yacht of the



SALOON, SHOWING ÆOLIAN AND WRITING DESK. THE PASSAGEWAY LEADS TO THE TWO 'MIDSHIP STATEROOMS.

DECK DINING SALOON, LOOKING AFT, SHOWING COMBINATION SIDEBOARD AND FOLDING BERTH.

same over-all length. In addition to the two 30-horsepower, 4-cycle engines it contains an electric lighting plant and a switchboard, by which the entire lighting system of the boat may be controlled and kept under observation. On each side of the motors are the two gasolene tanks, of 175 gallons capacity each, so placed that the weights carried are disposed to the best advantage as regards the stability of the hull.

In addition to her three staterooms and a berth in her dining saloon, there are cushioned transoms in her after cabin, which can sleep three comfortably if pressed into service as berths. When speaking of comfort, it should be remembered that this after cabin is 12 feet in length and the full width of the boat at nearly her broadest section.

The crew's quarters are well forward, as in steam yachts. The water tanks and stowage space are under the forward deck house, and her engine room may be entered from a ladder on the port side, so that an unusual degree of privacy is obtained for owner and guests. The cook's store room is within easy reach of the galley, and the galley itself is handy to the dining saloon. The masts are hinged and the funnel is removable, so that the yacht may easily pass under bridges and through canals. The boat shows careful thought in design and laying out, and is a splendid example of the amount of space that may be obtained in saloon, dining room and staterooms, with all the comforts and conveniences of a country home, within very reasonable over-all length and quite shallow draft, without the sacrifice of either appearance or seaworthiness.

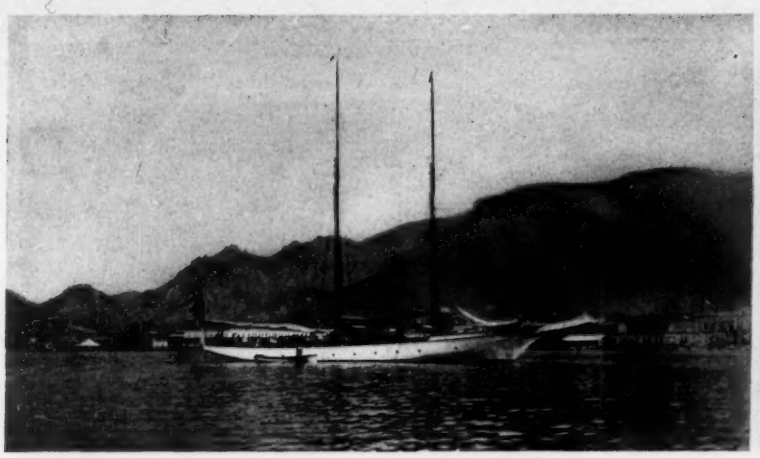
And this shallow draft, by the way, greatly increases her cruising radius, making it possible for her to enter bays and pass through inlets where craft drawing more water would necessarily be barred.

Indeed, one of the great advantages of a boat of this type is her ability to penetrate out-of-the-way places and, if her owner be a sportsman, to lie at anchor within easy reach of good fishing grounds and where wild fowl shooting may be enjoyed at its best. In fact, such a boat can be made to serve as a most comfortable and convenient floating shooting-box or fishing-camp—features the merit of which will win quick recognition among those of our yachtsmen who are lovers of the gun and rod.

With no bunkers to fill, no fires to bank and no expense for fuel consumption except when under way, she can be handled comfortably and economically with a moderate-sized crew.

ENGINE ROOM, LOOKING FORWARD. GASOLENE TANKS ARE ON EACH SIDE OF THE ENGINES, AND ELECTRIC LIGHTING PLANT FORWARD, BETWEEN THEM.

ONE OF THE TWO 'MIDSHIP STATEROOMS. THESE CABINS ARE FURNISHED WITH BUILT-IN BERTHS, BUREAUS, WARDROBES, SETTEES AND FOLDING WASH BASINS.



SKIDBLADNIR ANCHORED IN GUAYMAS HARBOR.

STEAMSHIP INDIANA ASHORE ON THE ROCKS OF LOWER CALIFORNIA.

Cruising in Out-of-the-Way Waters

A RECORD OF THE AUXILIARY SCHOONER SKIDBLADNIR'S VOYAGE TO LOWER CALIFORNIA AND MEXICO—A REGION ABOUNDING IN FISH AND GAME OF WHICH LITTLE IS KNOWN

By STINSON JARVIS

Photographs by Miss Theodora Garbutt.

THE cruise of Skidbladnir, Mr. Frank Garbutt's auxiliary schooner, to the waters and islands of Lower California last winter, has opened a new field for those yachtsmen who like to combine hunting and fishing with their cruising. It is true that the game and the natural beauties of this locality have been known to the professional hunter and scientist for many years, but to the yachting world this coast has so far been a sealed book, which this story will for the first time open. Yachtsmen will be surprised to learn of the unlimited fishing and deer hunting that may be had within easy reach of Los Angeles and the Lower California coast. The camera of Mr. Garbutt's daughter has been of great assistance in illustrating this account of the voyage and in supplying supporting proof, which some of the fish stories here narrated seem to need. As a matter of fact, nothing short of personal experience could bring credence for some of the different items recorded. It is not an ordinary experience to sit on the bowsprit and see your anchor lying 150 feet below, and when it is mentioned that the fish bit at the oars while the gig was being rowed to the land, it is easy to foresee that this account may be put into the Munchausen class. However, *dulce et decorum est* —to die for Truth's sake—so here goes:—

The Skidbladnir was designed by Mr. Garbutt to combine the hitherto uncombined, viz.: high speed under both power and canvas. The 300 H.-P. engine, which is intended to drive her at 14½ knots an hour, is in a compartment by itself, and at present she carries an undersized cruising rig for easy handling, while her hundred feet of overall length give her ample accommodations in spite of the great size of the concealed engine. There is sure to be curiosity expressed as to the name. The original Skidbladnir was the boat of the old Norse goddess, which would expand to receive any number of passengers, but would also fold up in her pocket, and Skid-blad-nir signifies "Ship that folds like a purse."

The start southward was made from San Pedro on Friday, January 29, with no fixed plan of travel and with nobody caring where she went, when she would arrive, how long she would stay, or when she would come back. These ideal conditions worked out to logical conclusions in supplying a maximum of pleasure with a minimum of worry, and while the spinnaker and main top-sail ballooned her down the pearly seas for the first 100 miles to San Diego, gladness was in every lift of the long Pacific swells. Black Care, who sits behind the horseman, was chucked for the best part of three months.

At San Diego, a Nicholson ship log was put in place while the vessel was on the ways for cleaning, and Mr. F. A. Carpenter, of the U. S. Weather Bureau, supplied pilot charts showing the probable winds and weather in the localities to be visited during the months of the cruise. These were closely watched for the purpose of making corrections and proved wonderfully accurate. Fuel and lubricating oils for 3,000 miles of cruising were here taken aboard, as were also supplies for three months. The next run was of seventy miles to the quaint old Mexican town of Ensenada, where there is a military station and a government prison. The arrival here was in a heavy rainstorm, the last one of the season, and after this interesting stronghold of Ensenada had been photographed, the Skid passed out into a heavy northwesterly wind and sea, and, under easy canvas, logged 9¼ knots till the southwest harbor in Cedros Island was reached.

Several days were spent here, because there was good deer shooting on the island, and an abundance of abalones and wild geese, while the fishing was something beyond description. San Bartolome harbor was next visited. Here there were thousands of great turtles, which provided fine steaks and soups. Some of them were harpooned from the decks of the Skid—the edible kind are called *Cahuama*, and were plentiful, but the *Carey*, from which the valuable tortoise-shell is procured, were exceedingly scarce. On one occasion, while harpooning them, Mr. Garbutt struck at something dark in the water and found he had pierced a large shark through the tail, and had a great fight on his hands before killing it. The fish here included bass, mullett, surf-fish, turbot, spotfins, whitefish and many unknown species. They were taken by trolling, with a seine and with the lance. The deer were so plentiful on the island that their tracks made the earth look like a sheep corral.

All hands were called at 1 A. M. on February 13th to set sail for further passage south. Once outside the wind increased and raised a heavy following sea, in which Skid held on to her full canvas, and did 11⅝ knots until Magdalena Bay was reached. In this neighborhood there are quiet lagoons extending for seventy miles or so, and tents were taken in the power launches, so that we might camp out when stops were made over night. One could spend six months here before exploring all the lagoons, which

THE WATERS YIELD FISH OF UNUSUAL SIZE.
A 400-POUND TURTLE TAKEN AT PORT SAN BARTOLOME.
A TYPICAL MEXICAN HUNTER AND GUIDE.

are alive with game—curlew, ibis and all kinds of plover and duck. The deer are not very large, the heaviest buck we secured weighing 162 pounds. One of the most toothsome products of Magdalena Bay was the abalone, whose flesh has to be much pounded, however, before being served.

Although good drinking water was found in the spring wells of Santa Margarita Island, there was nobody living there; but San Jose del Cabo (of the cape) was gay with a Spanish fiesta, or carnival, when we arrived, accompanied by the old Roman confetti-throwing, dancing and general jollification. Here were all kinds of fresh vegetables, tomatoes, cocoanuts, bananas, sugarcane, and pineapples, while the ducks, doves and quail were close at hand and in abundance.

A detour was here made to the island called Socorro, lying about 300 miles off the coast. A few sheep were left here about twenty years ago, but since then the island seems to have been wholly unvisited, the green parrots with which the island abounds being so tame that they could almost be caught by hand. Great numbers of whales were in the vicinity, as many as 150 being counted from the deck of the anchored yacht. All night long they would come up and blow and snore round the vessel, but did no more harm than the porpoises or the "elegant supply of sharks." The corals were beautiful, while the rocks were covered with all kinds of shellfish. The bottom could be seen in ten fathoms, and every fish that the water contained could be watched in that pearly marine garden. They were of all colors and shades, from flaming red to green, blue, gold and orange, and the extraordinary clearness of the water revealed a new world.

Some of the fish were peculiarly voracious. A patent folding lobster-pot which was baited and lowered was attacked savagely. When hauled up, it was nothing more than a twisted mass of scrap metal. The blades of the oars gleaming in the sun as the boat was pulled ashore would be bitten by the fish. The easiest way to get the crawfish (here called lobsters) was to pick them off the bottom with dip-nets in 1½ fathoms, and when dinner was to be served at a certain hour, the fishing did not begin till half an hour before—just allowing enough time to clean the fish. On this trip to Socorro, heavy seas were encountered, which seemed to be running from three different directions, testing the qualities of the Skid in a very satisfactory way.

After returning to San Jose del Cabo, the yacht was rounded up into the Gulf of California, when La Paz was visited. Here the question of climate is wholly forgotten. One may lie out at midnight in his shirt sleeves or wear a coat and waistcoat at mid-day. The photograph here reproduced of a La Paz dwelling, with the palm trees growing in the interior courtyard, is as like Egypt as the climate of La Paz is like that of Egypt. This balmy condition exists for 9 months, and the other 3 months are cooler, but very pleasant. The Mexican officials, both here and everywhere, did everything to make our visit pleasant. Civilization mingled with the wilds when the yacht stopped at many of the towns, or anchored off the islands for the hunting and fishing, the old churches at Loreto and Mulege being especially interesting. The ancient mission church at Loreto was built before the wood for the ship Mayflower was cut, and its valuable paintings were produced by the best masters of Europe over 300 years ago. Some of these are forty or fifty feet high, and in some places the gilding on the frames is now as good as ever, though the building has been twice broken by earthquakes and is now abandoned.

None of the far-famed cannibals were seen at Tiburon Island, which was perhaps well for the gentlemen with

ANCHORED IN PUERTO ESCONDIDO (HIDDEN PORT).
DWELLING IN LA PAZ, LOWER CALIFORNIA, SHOWING PALMS IN INTERIOR COURT.
SURF AT SOCORRO ISLAND.

the peculiar taste, because the Skid was really an arsenal in the way of repeating rifles. Over on the mainland, Guaymas was visited, where we took in a bull fight—a nauseous experience not to be repeated. At Guaymas gasolene was found to be ninety cents a gallon, and none was purchased, although the Skid used on the trip 5,000 gallons of gasolene and distillate. After examining a Mexican man-of-war there, a turn was made back to the coast, where the Pacific Mail Steamship Indiana was found hard aground on the rocks. She had gone ashore in a fog and her crew was in mutiny—wanting to leave the vessel. One of the mutineers was seen triced up by the hands. Captain Robinson was still standing by the vessel, hoping to save her; but soon afterward, finding that she would be a total loss, he killed himself on his wrecked steamship, and his body was later brought north on a ship of the same line.

On running into Magdalena Bay, Admiral Swinbourne was found on the West Virginia, in charge of the Pacific squadron, and the Skid sent up the signal, "I have a letter for you." Before the flags were fully mast-headed they were read, and a launch was seen being lowered from the Flagship. The fleet, here for target practice, contained 4 cruisers, 8 or 10 torpedo boats, and some supply ships. The practice at night was picturesque, the shells themselves being visible in their flight. For day practice, all the vessels were stripped for action, and as there was no sea, the vessels were rolled by the crews, about 500 men crossing from side to side till they got the ships rolling. In this way they circled round the target, putting projectiles into a mark two feet square from a distance of a mile—the shooting being competitive, and all vessels rolling twenty degrees as they traveled. During all this practice, the Corinthians from the Skidbladnir were the guests of Admiral Swinbourne on the West Virginia.

The return northward was stormy, and a 60-mile puff once blew us out to sea from our anchorage under Cedros Island. After returning under power, we were again blown out, the anchors having but little grip on the sides of these precipitous Pacific islands. After finally getting started on the return trip northward, we made a test of the ship log we were carrying, and on a run of 191 knots there was only a difference of one mile between it and the chart measurement made between headlands.

Concerning a three months' cruise of this kind, but little can be said of the details in the limited space allowed. But in the general outline and brief description of it that I have given, I hope that sufficient interest will be aroused to cause other yachtsmen to visit this ideal cruising locality.

Individual Coils vs. Synchronized Ignition

By HERBERT L. TOWLE

THERE are two principal systems of high-tension ignition by batteries. One is the so-called individual coil system, in which each cylinder is sparked by its own individual coil and trembler; and the other is the "synchronized" or distributor system, wherein a single spark coil does duty for all cylinders, and the high-tension current is commutated or distributed from one spark plug to the next by an apparatus called the distributor, which is commonly mounted on the timer. In addition, there is a sort of compromise system wherein each coil sparks its own cylinder, but a separate additional coil is employed having a trembler, and this trembler does duty for all the induction coils. Each of these systems has certain advantages, and the motor boat owner is sometimes puzzled to know which is preferable for his case. In the following paragraphs the writer has endeavored to state the advantages and limitations of each system.

Almost every power boat owner who has had to do with high-tension ignition knows the familiar vibrator coil, and if his engine has more than one cylinder, the diagram (Fig. 1) illustrating the conventional coil system will require no explanation. The battery *A*, which may be storage or dry cells or a caustic potash battery, delivers its current through a switch *B* to the tremblers *CC* of the individual induction coils. From the tremblers the current goes through the primary windings of the coils to the timer *D*, which determines the coil through which current shall flow at any instant. On passing through the timer the current is grounded in the engine and returns to the ground connection *E* of the battery, as indicated in dotted lines. The secondary or high-tension winding of each coil is connected to the primary winding, and the other end delivers current through a heavily insulated cable to the spark plug. The high-tension current, after passing through the plug, is grounded in the engine and returns to the coil *via* the ground connection of the timer and the primary wire leading from the timer to the coil. The only high-tension wiring outside of the coil is the cables from the coil to the plugs, and, as these are stationary and usually short, their insulation is easily maintained. If exposed to spray the plugs may be protected by porcelain hoods, aided, perhaps, by a wrapping of tape or by rubber tubing drawn over the cables.

On theoretical grounds, or as a mere matter of logic, objection might be made to the use of four separate coils to do the work of one. Since only one coil is working at a time, it would seem the most reasonable thing in the world to use a single coil and close its primary circuit four times (or as many times as there are cylinders) in one revolution of the timer *D*, the secondary current being then distributed to the spark plugs in turn.

As a matter of fact, this reasoning has occurred probably to every one who ever made spark coils, and numerous attempts have been made to simplify the ignition system. The high-tension current, however, was found to be extremely difficult to confine to its intended path, and the early distributors proved deficient in this respect. It is comparatively easy to confine a current of 50,000 volts if its path is a short length of stationary, highly insulated wire. A distributor, however, is a piece of mechanical apparatus having revolving parts which must be oiled, and are hard to protect from dust, water, etc. A high-tension current leaks away very easily over a film of dirt, absolutely negligible as regards a simple battery current. If the distributor relies partly on hard fibre insulation, the fibre may absorb a minute quantity of moisture, which straightway gives an invisible path to the high-tension current, and although sparks may be produced they are not as hot or strong as they should be from the current employed. These difficulties, from which the avenue of escape was not immediately clear, led some years ago to the abandonment of attempts to use single-coil ignition.

Nevertheless, after the "logic" of the matter was dropped, the subject was kept alive by certain deficiencies seemingly inherent in ordinary forms of tremblers. A trembler is, in fact, a decidedly delicate piece of apparatus. The soft iron button or armature at its end must work very close to the core of the coil, and the change of a thirty-second of an inch in its distance makes a lot of difference in the pulling power of the core. If the adjustable contact screw is screwed down too hard an excessive magnetic pull is required to draw the trembler blade away from the contact screw. *Per contra*, if the pressure of the screw is very light, contact may be broken before the current has had time to flow long enough to "build up" the coil to its full magnetic strength. In the latter case

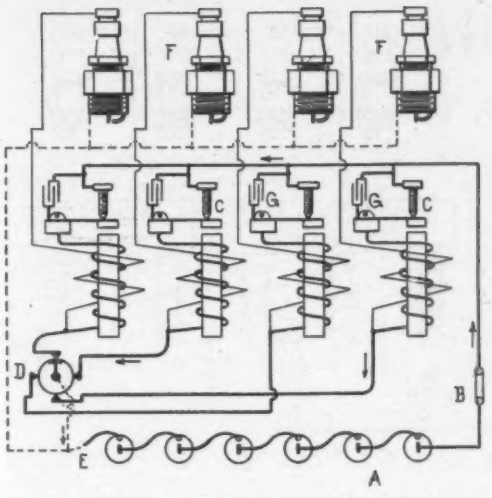


FIG. 1.—DIAGRAM OF THE ORDINARY INDIVIDUAL COIL SYSTEM.

the spark is not quite so strong, but the current consumed is far less; accordingly, it is the practice to use as light a contact as will give a steady buzz. Now, unless all the trembler blades are exactly alike, some of them may be farther from the core than others under the same contact screw pressure, and consequently will work a little more sluggishly. Again, the condensers *GG* between the contact screws and the tremblers cannot "swallow" quite all the sparks, especially when the batteries are fresh; consequently there is more or less arcing at the platinum contact points, and these points are slowly eaten away and roughened, resulting in gradual change of adjustment and in the current being more or less weakened by poor contact. The platinum points are occasionally smoothed with a file and readjusted, but the essential fact is that the adjustment, once made, is not permanent. Even if the contact points did not change, the battery strength does change, and a weak battery will not always work to advantage with the same contact adjustment as a fresh battery. This results in many persons whose engines have vibrator coil ignition making a practice of testing and adjusting the tremblers very frequently—almost every time the engine runs—and when a particular cylinder misses, if the spark plug is clean, the trouble is very often found in the vibrator adjustment.

All this has an important influence on the efficiency of the engine. Even if all the vibrators are working regularly, it is by no means certain that all are working exactly alike. Some of them are probably slower or faster than their neighbors, with the result that their cylinders receive sparks a little later or earlier. If a certain vibrator makes 300 contacts per second, which is a good, average figure, an engine making 900 revolutions per minute, or 15 revolutions per second, will receive sparks at the rate of 20 per revolution; the sparks will therefore occur 18 degrees apart on the crank circle. At that speed the spark is not likely to need a greater advance than 20 degrees; consequently we see that if ignition were to be delayed by the length of time of a single vibration of the trembler, practically all the spark lead would be lost. Not more than a fourth to a tenth of this amount of variation will occur between successive first sparks of the same trembler, but different tremblers, owing to difference in adjustment, may vary by a large fraction of this amount. It is generally recognized to-day that only the first spark of a series has any igniting value, since after it ignites the charge subsequent sparks occur in dead gas, and, if it fails to ignite, the next spark occurs too late to develop more than a fraction of the energy in that particular cylinderful of mixture.

In two and three cylinder engines the changes of spark time due to varying trembler adjustment were not considered important. When, however, four and six cylinder engines have to be considered the case was different. Tests showed that the ordinary trembler coil fell far short of developing the full power of six-cylinder engines. Experiments were again made with single coil and secondary distributor, showing conclusively that the cause of the lack of power lay in the inequality of the tremblers. With this substantial motive the subject was again attacked, and the result is the successful distributor system of to-day.

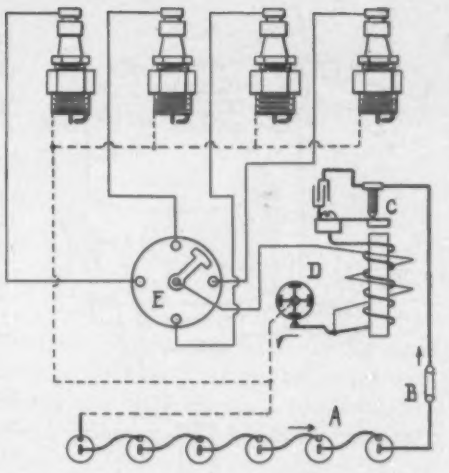


FIG. 2.—THE DISTRIBUTOR SYSTEM.

From this new point of view, the advantage of the distributor is that the owner is compelled to deal with the frailties of only a single trembler instead of several. As already remarked, any individual trembler will work about alike from one spark to the next. In other words, its time constant for a given adjustment and strength of battery does not greatly change. Consequently, by the use of one coil and trembler and the secondary distributor, the exactness of the ignition timing is limited only by the accuracy of the timer in making contact for the different cylinders at equal 90-degree intervals of its rotation. From this feature of the distributor system its revivers called it the "synchronized system," and this name has clung to it since.

After all, the question is mainly one of correct design and the use of proper materials. Nothing but hard rubber is good enough for distributor insulation, unless the distributor itself be of very exceptional design. The outer surfaces must be protected from water, oil and dust. In other words, they must be kept clean. They must also be extensive enough to compel the leaking current to traverse a considerable path in order to find a ground. The high-tension cable connections must be so flexible that there can be no bending of the enclosed strands.

Fig. 2 shows the wiring circuit of the usual distributor system. The coil is substantially like the individual coil in Fig. 1, save that it is likely to be somewhat larger and better built. The timer *D* has only one connection, which closes the circuit as many times per revolution as there are cylinders. The binding post terminal of the secondary winding, instead of connecting directly to the spark-plug cable, leads to the central terminal of the distributor *E*, where it connects with a revolving metal arm, from which the current jumps in turn to the fixed contacts connected by high-tension cables with the spark plugs. The distributor is mounted on the timer and the distributor arm revolves with the timer shaft, but is fully insulated from it. Here is where the first chance of leakage is found, *i. e.*, from the distributor blade over the insulation to the timer shaft. Other chances are presented by the fixed contacts and their binding posts, as, if the outside of the distributor were wet or dirty, a part of the current would leak from the binding posts to the metal base instead of going to the plugs.

FIG. 3.—A TYPICAL TIMER AND DISTRIBUTOR COMBINED, SHOWING FLEXIBLE CONNECTIONS FOR CABLES.

Fig. 3 shows a typical timer and distributor in combination. The distributor housing is of hard rubber, in which the four collector contacts are embedded. Instead of screw binding posts, ball ends and spring clips are used on the high-tension cables in order to give freedom of movement when the body of the timer and distributor is turned to ad-

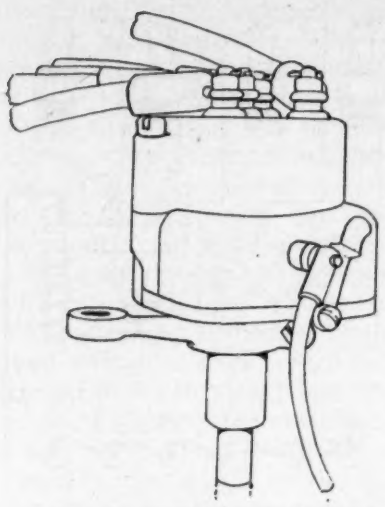


FIG. 4.—OUTSIDE VIEW OF THE CONTACT MAKER AND DISTRIBUTOR OF A SINGLE-SPARK SYSTEM.

vance or retard the spark. Direct contact is not made between the distributor arm, which in this case is a threaded pin, and the collector segments, as the voltage is high enough to jump the small air gap. In this manner wear and the distribution of metal particles inside the distributor case is avoided.

A simple form of distributor is shown in Figs. 4 and 5. With the primary contact-making device occupying the lower part of the apparatus this paper has nothing to do. The distributor itself is housed under the hard rubber cap at the top. The high-tension current comes from the coil to the central connection, where a small carbon brush presses against the copper spring mounted on the knob-shaped hard rubber piece, and from this spring the current is delivered in turn to the four brass points at the lower ends of the terminal studs. The secondary cables have hard rubber ferrules, through which brass eyelets are screwed into the ends of the cables, and are attached to the terminal studs by small cotter pins.

It is essential to keep the hard rubber distributor cap clean and dry inside and out. Some puzzling cases of misfiring have been traced to condensation of moisture on the inner surface of the cap when the distributor has not been properly ventilated. Most of the earlier distributors were made with screw binding posts, and the enforced bending of the secondary cables under spark advance and retard ended by breaking them off. Such trouble is avoided by the devices shown. A very rapid trembler is essential to a successful distributor system. Unless the trembler comes entirely to rest after firing one cylinder before contact is made at the timer for the next cylinder, the trembler may be out of contact with its screw at the time when it should be getting ready to break contact for the spark. Some modern coils have tremblers of frequency as high as 400 vibrations a second, and even more.

It is not always advisable to use a storage battery with the ordinary distributor system. The reason for this is that the current is so heavy that the coil may get warm enough to soften the insulation. Even if this does not happen the platinum contact points may be eaten away with excessive rapidity. This, in fact, is the most troublesome objection to the distributor today. With a single pair of platinum contacts doing the work of four, very frequent adjustment is required. On the other hand, there is only one trembler to adjust, which is a compensation.

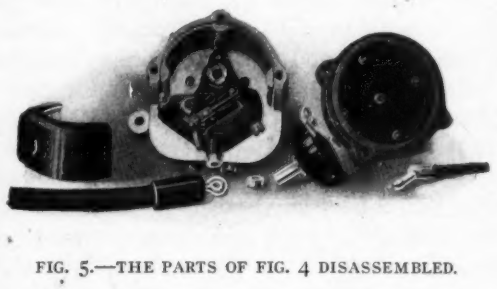


FIG. 5.—THE PARTS OF FIG. 4 DISASSEMBLED.

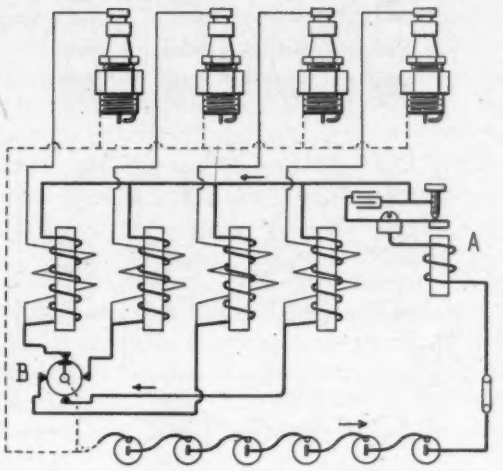


FIG. 6.—DIAGRAM OF THE MASTER VIBRATOR SYSTEM.

To avoid the real or supposed difficulties of insulating the high-tension current, what is known as the master vibrator system has been brought out within the last two years. In this system the induction coils proper have no tremblers, but a small supplemental or "master" coil is added with a very fast-working trembler, and this coil and trembler makes and breaks contact for all the induction coils. The wiring diagram is shown in Fig. 6. The battery current goes from the switch to the master coil *A* and thence through the induction coils to the timer *B*, which is of the same type as in Fig. 1. The rest of the system explains itself.

To the writer's mind, trembler systems of all sorts are temporary phases of ignition development. The trembler coil owes its vogue to the difficulty found by early inventors in devising a timer which should make and break contact with reasonable durability and with a low consumption of current. The early timers performed the function of both timer and trembler, that is to say, they both made and broke contact, and the coil itself had no trembler.

These early timers, however, wore out rapidly, required constant adjustment, and wasted many times the current needed to produce the spark. The trembler won popularity because with all its faults it saved current, as compared with the old forms of contact maker. It is not the province of this paper to discuss contact makers, but, in leaving the subject, I may remark that if battery ignition is not to give way altogether to magneto ignition, its salvation will be found in an ignition system which produces but one spark per explosion, and produces this spark with no more current consumption than is actually needed to make the spark.

Wire Hawsers

We have our troubles afloat, no doubt, but the worst ye ever saw, sir—
An 'tis one ye'd never hear about—the curse o' a new wire hawser.
He will curl an' sag, an' wriggle an' twist,
An' hit ye a crack on yer blessed wrist,
An' skin the knuckles upon yer fist.
That's the way of a steel wire hawser.

You try to coil him in flakes so neat, till yer hands are nearly raw, sir,
But he'll up an' knock ye off yer feet—it's the way of a new wire hawser.
He will fight and spring, and give ye a bump,
And surge an' slip with many a jump,
An' leave ye bruised, an' with many a lump.
It's the way of a new steel hawser.

You pay him out to the tug ahead, an' he snaps at the smallest flaw, sir,
An' leaves ye mangled and nearly dead, with the backspring o' the hawser.
He will jam, and knot, an' cover with mud,
An' shriek aloud for your very blood,
An' laugh as ye curse an' chew the cud.
May the devil take the hawser!

F. W. Wallace.

Montauk and Grayling

A SHORT ACCOUNT OF THE FAMOUS BOATS WHOSE NAMES HAVE BECOME BY-WORDS—AN ERA OF SCHOONER RACING WHICH HAS NEVER BEEN EQUALLED

By W. S. QUIGLEY

Photographs by N. L. Stebbins.

"IF you live a hundred years you will never see another epoch in American yachting like that."

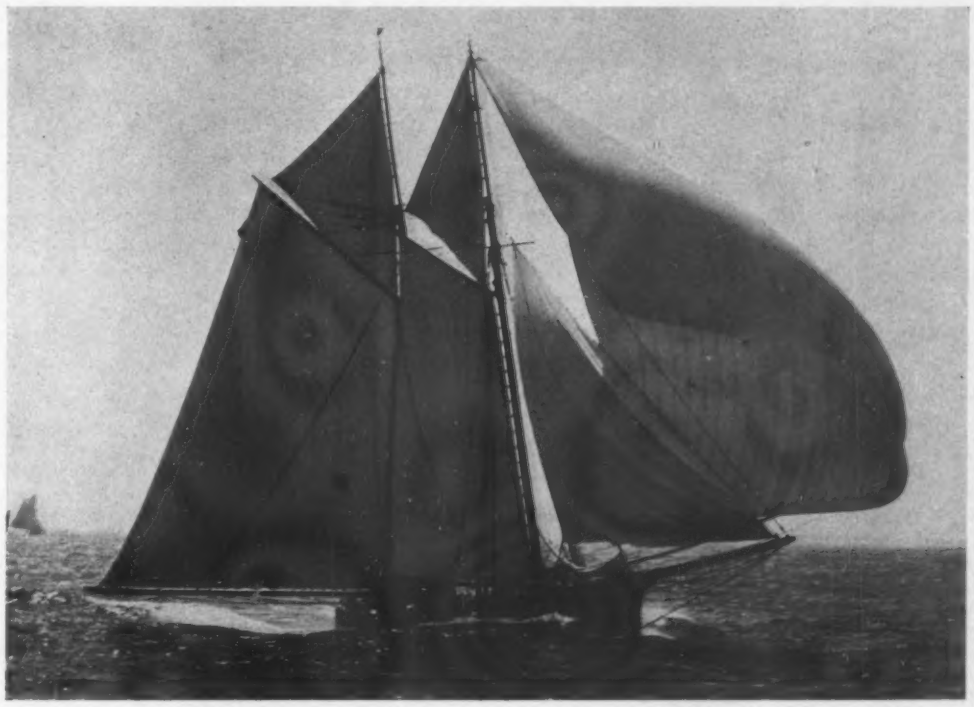
It was in the New York Yacht Club House, and, as he spoke, W. Butler Duncan, Jr., of America's Cup defense fame, pointed towards a picture of the wooden centreboard schooners Montauk and Grayling.

It certainly was a stirring scene. With their topmasts housed, the two grand, old racers were seen reeling past a bell buoy outside Sandy Hook, with clouds of brine rising from their weather sides, and their lee rails buried in a smother of water that broadened into a giant white wake. Many feet below the waterline, along the weather bilges, the gleaming hulls showed through a valley of seas. There were double reefs in each mainsail, a single reef in each foresail, and the deck of either "fighting" schooner was filled with human mites perched like so many monkeys on the top of an oscillating escarpment. The curve of the swelling canvas stretched along spars that had a slant of over thirty degrees, with sheets trimmed to a hair's point, was all so natural that one imagined he heard the rattle and roar of sail, block and wave, as, tack for tack, the "big Indian" and her speedy consort lay down against the lusty wind and wave in the beat to the outer mark.

"I'm afraid we shall never have again yacht tussles like those two silverware hunters used to put up," remarked a friend of Mr. Duncan, with the suspicion of a sigh.

Those were days indeed! Smooth, slick and slippery as the belly of a mackerel, the hulls of the Grayling and Montauk were always the essence of perfection, and so constantly were they groomed during the various seasons in which they fought for mastery that no grass was ever known to grow on their garboards. When they were "wound up," as was the case annually between Decoration Day and October, they used to represent a whole season of speed and spunk in every race in which they contended. Yachtsmen came from all over the country to see Montauk and Grayling pop aquatic bullets at each other. It was no unusual thing to see a Grand Republic, Columbia, Delaware, Sylvan Dell, Geo. Starr and half a dozen other steamboats, all filled with patrons, not to speak of a giant flotilla of steam yachts about the finish line, when the two schooners had one of their famous duels. One day Montauk would win and on the next Grayling would clean off the slate, and they would try it all over again, day in and out, with only the Sabbath as a truce bearer.

Each craft sailed like a witch. They used to ride over, rather than through, the seas, without having their way checked, so far as the eye could detect; and the way they stole along in light airs was magical. The first year Montauk came out she sailed over the New York Yacht Club course, in the organization's annual regatta, from Bay Ridge, through the Narrows, down to the Southwest Spit and around Sandy Hook lightship and back, a distance of 40 nautical miles, in 3 hours 52 minutes and 17 seconds, the fastest time ever made, and 20 seconds quicker than the cup defender Puritan did it in an official trial race, August 24, three years later.

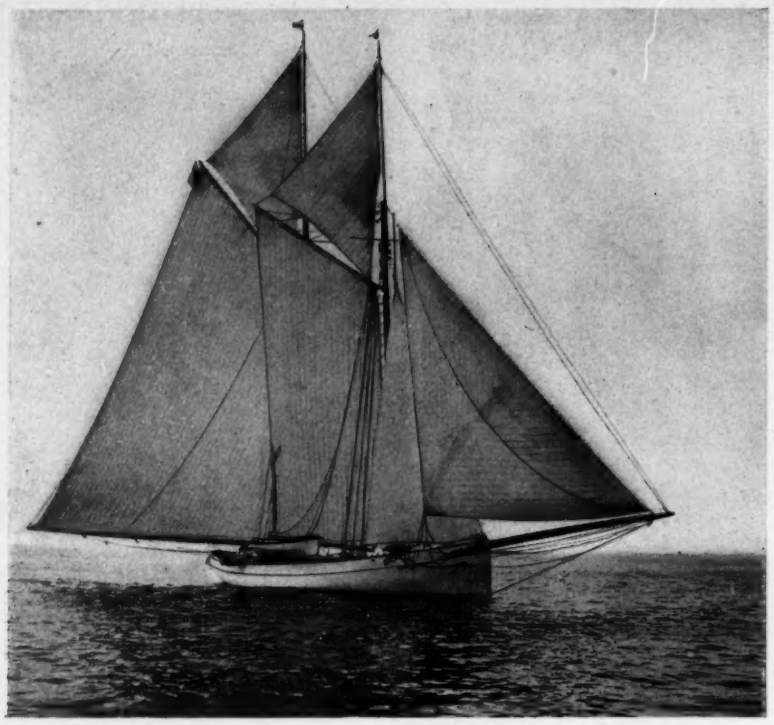


DOWN THE WIND MONTAUK ALWAYS DID WELL.

The Grayling and Montauk were sister boats except as to size. Both were designed by Captain "Phil" Elsworth, the New Jersey Herreshoff of his time, and C. & R. Poillon, of Brooklyn, built them. One sailmaker always clothed them both. Montauk was the first to make her debut in 1882, and Grayling came out the year following. Both were fitted with centreboards, but in 1888, when she grew old and quit racing against her larger opponent, Grayling was rebuilt and had a keel added by Lawley, of Boston, from plans by Burgess.

Commodore Latham A. Fish, of the Atlantic Yacht Club, owned Grayling during the acme of her racing career, and was the victim of much unfavorable comment because of the alleged "freaky" type of her model. Montauk was built for Samuel R. Platt, who raced her for three seasons; but in 1885, John E. Brooks, who had previously bought the schooner Resolute from "Uncle Rufus" Hatch, purchased her at auction. The two boats compared as to chief measurements in the following way:

	Montauk.		Grayling.	
	Ft.	Ins.	Ft.	Ins.
Length over all	104	..	91	..
Length on waterline	94	8	81	4
Extreme beam	25	3	23	..
Depth	8	10	8	3
Draft	7	3	5	9
Measurement for time allowance	94.06	..	83.42	..
Custom house tonnage, old, tons	193.26	..	136.59	..
Custom house tonnage, new, tons	92.10	..	62.95	..



THE FAMOUS OLD GRAYLING.

Both schooners had wedge-shaped sterns, and each was fitted with a jibboom in addition to a bowsprit. On the Grayling the latter measured 21½ feet outboard, while the jibboom brought the total outboard measurement of 45½ feet. This allowed of an enormous head spread of canvas. The main boom was a little over 55 feet in length. Later, when Burgess modernized Grayling, he lengthened her stern 6 feet, and bolted 25 tons of lead to her keel, which increased her draught 2 feet. She also was furnished with a new 60-foot main boom, and her jibboom and bowsprit were discarded for a nosepole of a single stick, 37 feet long.

A casual glance at the table of figures given will show the marked difference in the draught of the two boats. It was such a wide departure that the advocates of the cutter model who believed in lots of head space but little elbow room, submarine lead mines, diving bells, planks on edge and the like, scoured the press in a bitter denunciation of the Grayling's extremely light draught. The Fish yacht had all of her ballast inside, and it was contended, along the surface of an ink pad, that she was dangerous to a degree. While the dispute was at its height, the subject of the argument went off on her trial trip, May 13, 1883, was struck by a squall in the lower bay, capsized and sank.

Her owner never wavered in his opinion of the stability of the boat, and inside of 17 days he had her afloat, refitted and a starter in the Decoration Day regatta of the Atlantic Yacht Club. This was her first and only serious mishap. She was a lucky boat after that. Captain Norman Terry, as shifty a sea dog as ever walked a deck, was the professional skipper of the Grayling throughout her chief races, and he had a worthy, if not more shifty rival, in Captain "Joe" Elsworth, who usually handled Montauk. Captain "Joe" belonged in Bayonne, and was a perfect glutton at taking chances. Many a time in a vicious scamper of wind he made Montauk stagger under and lug half an acre of canvas more than the law allowed. The "Big Indian's" masts used to bend like coaching whips when the Bayonne skipper rammed her nose into an avalanche of water that smothered the bows clear to the knightheads and soaked the head sails half-way up their length. But it was in "carrying on" that he won races, and his name about that time was even more revered among yachtsmen than the Barrs and Haffs of later years.

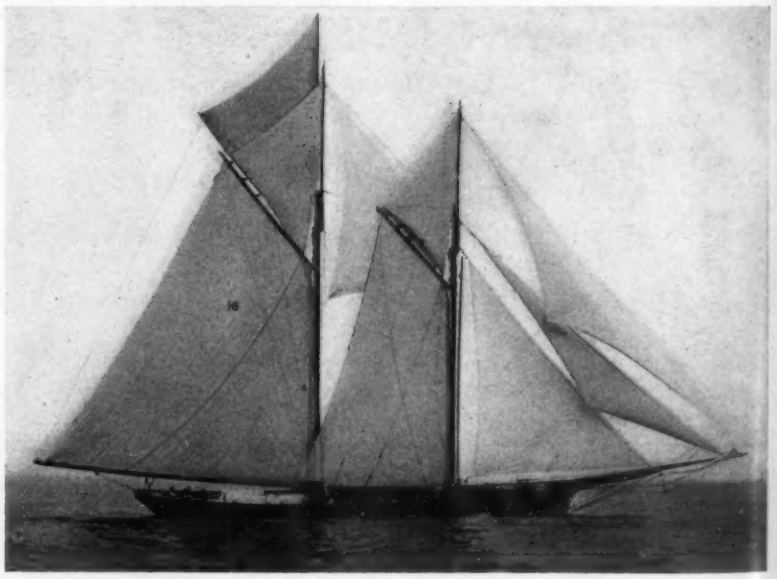
Montauk and Grayling were so formidable that when Sir Richard Sutton challenged for the America's Cup in behalf of his Genesta, the yachting experts, for a time, thought it unnecessary to build a defender. Afterwards, when Puritan and Priscilla were tuned up to defend the trophy, it was proposed to put the two schooners in the trial races, the similarity of size being considered most important. But the equity of meeting a single-masted cutter with a sloop, rather than with a craft of more than one mast, was reasoned out, and the two crack centreboard clippers were shut out in the trials.

During her initial season Montauk won the first annual Goelet Cup that was ever raced for. Commodore J. D. Smith was then head of the New York Yacht Club, and the race was sailed August 8, 1882, in a fresh southwest wind, from Newport to the east end of Block Island and return. On this occasion Montauk beat the Halcyon of General Chas. J. Paine by 11 minutes and 59 seconds. The other competitors were left hull down. The following year Montauk repeated the trick, beating her nearest rival, Fortuna, also new, and owned by Commodore Henry S. Hover, Eastern Yacht Club, by fully a mile. The Goelet Cup course this year was from Brenton's Reef lightship around the barn yard, the Sow and Pigs lightship, and return. Montauk covered the forty-mile course in 3 hours and 52 minutes.

The following season Grayling took a grasp on the Goelet Cup, winning the third race for that trophy from Varuna. It took Grayling nearly 12 hours to go the course, which had turning stakes off Block Island and West Island from Newport, but Varuna was 1½ hours away at the finish. James Gordon Bennett was then Commodore of "the" club, as he was the year afterwards, when Fortuna walloped Montauk for the fourth race of the Goelet Cup. In the latter contest there was a reefing breeze from the east-south-east and a very rough sea. Captain "Joe" was not aboard Montauk, which carried only lower sails throughout, although Fortuna tempted fate by sporting a main gaff topsail. Spiral columns of foam shot 60 feet in the air above the Beaver Tail during the race. The Grayling, with her lower sails double reefed and topmasts housed, and Dauntless, Rambler, Mohican, Clio, Estelle and Clytie, all famous travelers, were also in the race. The Fortuna beat the Montauk by only 2½ minutes. It was the topsail that did it.

The fifth Goelet Cup race, sailed August 7, 1886, fell to Grayling, which beat Montauk by 7 minutes and 17 seconds. This was a 45-mile contest, and again around the aquatic farm houses—the

(Continued on page 244.)



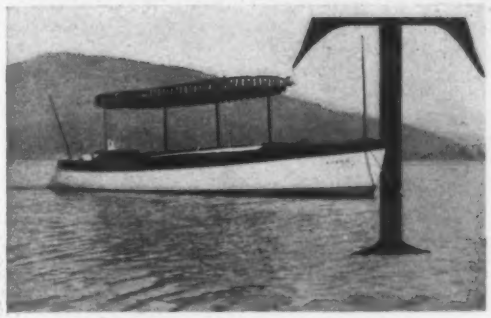
MONTAUK AS SHE APPEARED BEFORE HER STERN WAS LENGTHENED AND HER BOWSPRIT CHANGED TO A SINGLE STICK.

Cruising from the Hudson to Lake Champlain

WITH FULL SAILING DIRECTIONS FOR THE UPPER HUDSON AND CHAMPLAIN CANAL

PART II.

By W. W. BRINKERHOFF



THE next day we roused out at 6 o'clock, had breakfast at the hotel at Albany, and after buying some provisions, went down to the club, where we took aboard fifteen gallons of gasolene and got things ready for a day in the canal. This meant placing the canoe on board and arranging our mooring lines so as to have them handy (and long enough) when going through the locks. If one reaches Albany without first getting a pass to go through the canal, he must apply at the office of the Superintendent of Public Works, stating the name and dimensions of the craft. We had written for and received ours before leaving home, so were not delayed.

At 9:00 o'clock we set sail with a welcome blue sky and a light northwest breeze. The channel from Albany to Troy is very easy to find, and a run of about 7 miles will bring you to the steamboat dock at the latter city. You want to hug the east shore, and keep on hugging it up past the bridges and until you come to the Sloop Lock, at the side of the dam. Here you may have to wait, for it is a busy lock; but when your turn comes, run a little beyond the middle of the lock, pass a bow and stern line and soon you will find yourself well above the river, out of tide water at last. Have your pass ready to show, for if you don't, down you go again. Keep close to the east bank for a stretch of about four miles until just this side of the next bridge, when looking across you will see a number of locks. Cut straight over to these, and not diagonally, for there are some rocks that cannot be seen. Here you will find a series of four locks, which lift you up to the canal proper. If you have anyone with you, let him go ashore at each lock and handle your lines, for it is not only safer but saves time and leaves the lock tender in a good humor.

Now for a run of 65 miles through the beautiful Champlain Canal to Whitehall! On leaving these locks, there will be seen a lift bridge crossing the main street of Waterford. Three blasts of the whistle and it will rise and allow you to pass under, while the crowd looks on, and you feel big to think that the traffic of the town has stopped to let you pass by. Next comes a low red-brick building with the sign "Collector's Office" over the door. Be sure to stop here and show your pass, when you will get a most formidable document, called a passport. This is most essential, as you cannot pass the next lock without it. You will see by reading the canal rules that you are restricted to a speed of 4 miles per hour. This is slow, but of some advantage to the motor-boat man, as it gives him more time to see the beauty of the country he is passing through.

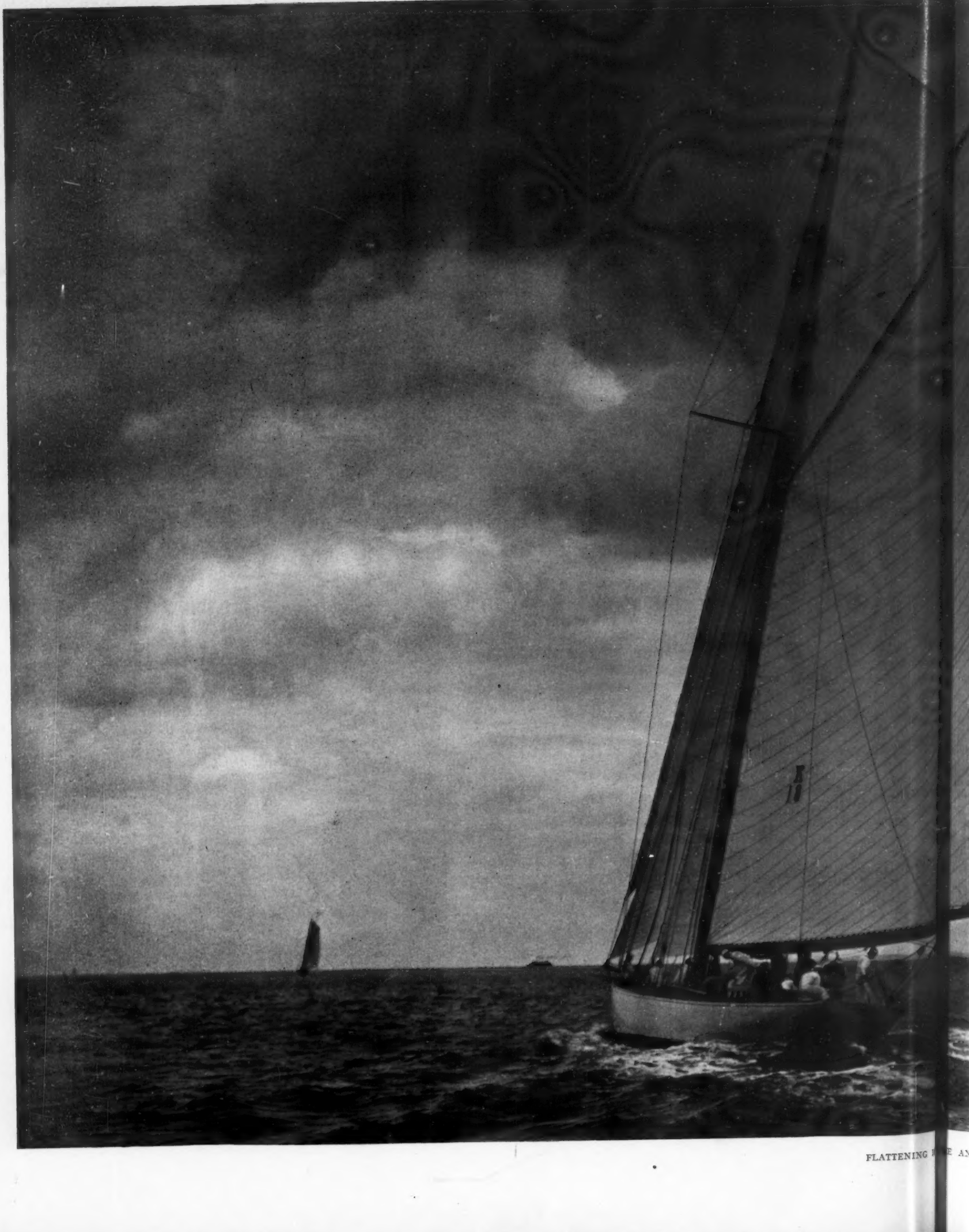
We left Waterford at 11:45, and within a short time passed locks No. 5 and No. 6, and then were afforded a chance to look down at the upper Hudson, flowing by in the valley, while we were sailing along half way up a hill. If there is ever a strip of water that winds and turns more than that canal, I should like to know it, for it seems to bend at every angle, and still keep the same general direction, while every turn means a new picture. First, you see the river, then a big field of grain, and next, through an opening, the foothills of the Adirondacks in the distance. It is simply great, and is far from being the tiresome trip one would imagine. At lock No. 7, otherwise known as Flynn's Lock, one can get bread, milk, etc., at the store, but if really good water is wanted, go down in the orchard behind the barn, where there is a spring as pure as crystal.

A little before 3 o'clock we passed through the well-named town of Mechanicsville, with all its shops and factories, 8½ miles from Waterford. Let me add, right here, that outside of a few delays at the locks, waiting our turn to go through, we had no trouble with any of the canal men, which fact we believe to be due to our treating them all in a cordial manner. At lock No. 9 we were delayed for a few minutes and were overtaken by the launch Helena, from our own club, and the remainder of the day we passed through the locks together. Winding along we passed through the towns of Stillwater, 3 miles from Mechanicsville; Bemis Heights, 3 miles further; and Coveville, 7 miles more. At 6:30 we passed Schuylerville, after a jump of 3 miles, where there is quite a basin, making a good place to spend the night, and if you have been unfortunate enough to have met with an accident, to put your boat in drydock. We had lost half a day at Poughkeepsie, and another at Athens, so decided to make Ft. Edward, a little over 13 miles from Schuylerville, before stopping. We had our dinner on board, and passing under the bridge here, we pushed ahead at the speed limit, and before long crossed the Hudson River just above one of the dams. In crossing here, hold fairly close to the tow path, and on the other side of the river will be found another lock. There are about twenty locks all told.

At 7 o'clock we set our lights, and as Helena had a strong searchlight, all we had to do was to follow her, which we did until a quarter to ten, when we swung into the basin at Ft. Edward and let Helena go on ahead. We tied up at the bank, put the canoe on shore and two of us went up to the town for some bread, etc., after which we spread our blankets at 10:30.

Night running in the canal can be done, only keep a sharp eye ahead for the turns, and in passing canal boats look out that your

THROUGH THE BEAUTIFUL CHAMPLAIN CANAL.



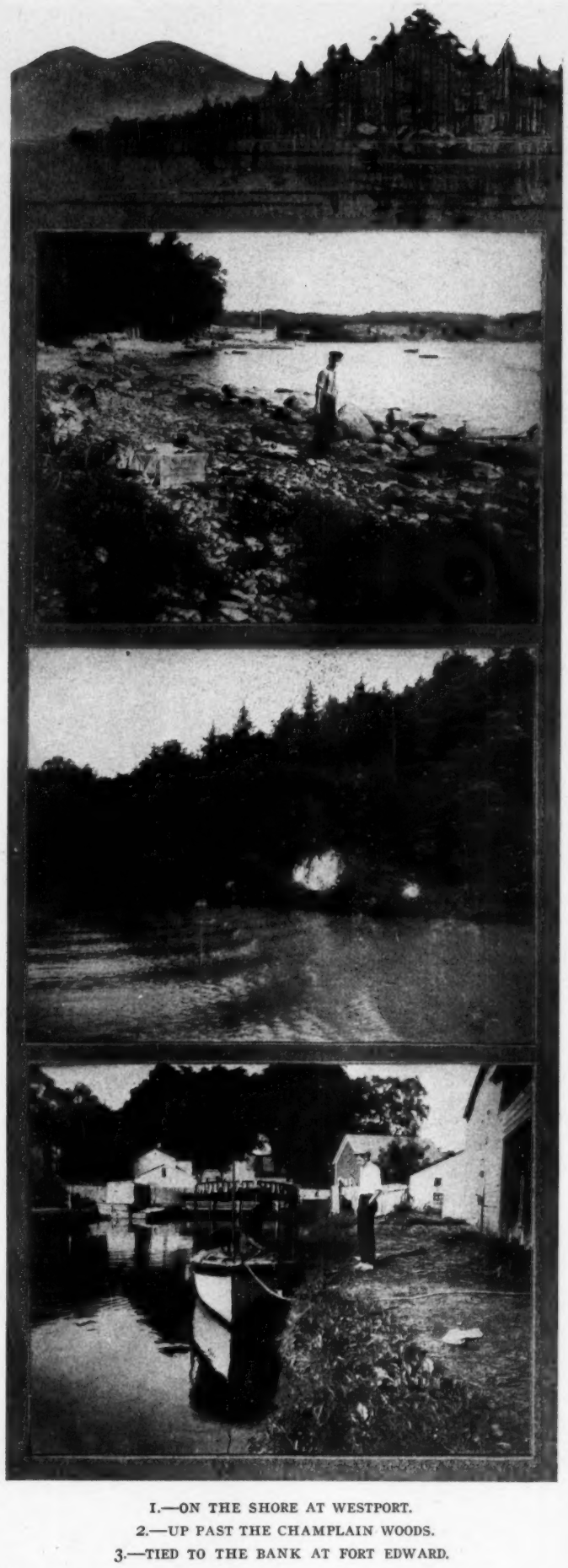
FLATTENING E AN

NG E AN ISTALENA AT LARCHMONT.

craft does not try to climb the bank. We saw one boat, whose helmsman was careless, run full speed into an open lock and reverse his motor just in time to prevent a collision with the closed gates.

Next morning we climbed out at 6 o'clock, and as soon as we could, started and passed lock No. 15, where we were held up for half an hour while some of the clumsy boats got straightened out and on their way. At 8 o'clock, having just finished breakfast, we set the colors and passing Dunhams Basin, 3¼ miles from Ft. Edward, and Smith's Basin, 4½ miles further, kept right on to Ft. Ann, where we arrived at 9:40. From Ft. Edward to this point you have been on the top level, and from here to the lake each lock drops you down. There are three locks here, but no trouble should be experienced. For a ways the old canal looks like a big brook, winding in and out among the hills and then branching out across a big field. Comstocks is the next village after a run of 4½ miles, and then you are off on the last stretch of canal, 7½ miles to Whitehall, where we landed at noon. It is a good plan to time the trip so as to reach here at noon, for from 12 to 1 o'clock the canal boats stop, and usually a request will persuade the lock tenders to put you through the three locks with a total drop of 30 feet, and you are in the waters of historic Lake Champlain. Before you go through the locks you must first surrender your clearance papers and obtain another pass, which can be done at the collector's office, on the second floor of the big brick building.

If lucky enough to get right through these locks, run over to the float on the west, where you can get all the gasolene you want and leave the boat while you go up to town. Having made up our minds that our first dinner on the lake was to be a good one, we got some potatoes, a fine steak, fruit and vegetables. With these we went back to the boat, had some lunch while a shower was passing, took on ten gallons of gasolene, and, in spite of the dubious weather, set sail for Ticonderoga.



1.—ON THE SHORE AT WESTPORT.
2.—UP PAST THE CHAMPLAIN WOODS.
3.—TIED TO THE BANK AT FORT EDWARD.

At 6:00 p. m. we slowed down and anchored under the shadow of "Ft. Ti," having covered the 28 miles in just three hours and a half. The Neida, a launch belonging to our club that we had picked up at Whitehall, anchored near by. It was a beautiful sight that met our eyes—a pretty cove, with a rocky cliff, topped by the ruins of the old fort; just to the side of this, a big, old farm house, with the sun going down behind grand old Mt. Defiance and two white launches swinging to their anchors, while looking across to Vermont the Green Mountains rolled on and on until they seemed to touch the sky. It was a picture well worth remembering. We took the canoe and went ashore. And how we did punish that steak and other good things! On the way back we made a short call at Neida, then returned to Spark for a good night's sleep. At midnight we were awakened by the boat's rolling and the wind singing through the awning. At first I thought we had dragged our anchor, but found we had not. It turned out to be only one of those wind squalls that are so frequent on the lake. I mention this to show that it is a good plan before leaving the boat or going to sleep to make sure that the anchor is well planted.

The next morning we climbed out at 6:30 and found a beautiful day at our disposal. We had breakfast on shore, and then climbed up the hill and inspected what remains of that historic relic of the Revolution — Fort Ticonderoga — took some pictures, crawled down into one of the under-ground magazines and then went back to the boat.

We had promised, before leaving home, to meet some friends at Westport by noon on the 20th, and to do it we had been trying to make the day we had lost on the river, and had partially succeeded, but had 35 miles still to go. Everything was in A1 condition by 9 o'clock, so up came the anchor, and with the faithful canoe coming on astern, we headed up the lake against a brisk northwest wind. Two miles on the way we passed the railroad drawbridge, and then Larabee's Point, Vt., on which is a small but very good hotel. Eight or nine miles further the village of Crown Point was passed at 10:20. After leaving Larabee's Point, hold the east shore until you come to the bend in the lake, and for quite a distance along here watch out for the weeds. The lake is quite narrow until Fort Frederick is reached, on which are the ruins of the fort of the same name and a large lighthouse, some 9 miles from Crown Point village. We passed this place at 11:15, and dead to the west is the town of Port Henry. The lake is somewhat wider here, and the wind was cutting up quite a sea, but before meeting

our friends (with three ladies in the party), we simply had to have a shave, so in spite of the boat's pitching, each took his turn sitting on the floor with the mirror tied to the seat, and every time the boat was steady for a second we would scrape away, and completed the job with very good success. Soon after 12:30 we rounded the lighthouse on Barber's Point, and with the glasses made out the docks at Westport. At 1 o'clock we landed at the dock of Westport Inn, where our friends were, blew the whistle to let them know we were on hand, and hauled off and anchored in the bay with four or five other boats. Good anchorage as far out as 100 yards can be had in clear water and a soft bottom.

Friday dawned clear and cool with a brisk southeast wind blowing. We cooked our breakfast on shore, and two of the crew prepared to take the train and spend the day at Ausable Chasm. After they had started, I proceeded to give the boat a good cleaning, and overhaul the motor, putting in some new wires. Later in the morning one of the girls came aboard and shined the brasses. And, boys, take my word for it, one of the fair sex can give us cards and spades in cleaning brass, so every time you get a chance let one of them put bright work in condition for you. Dinner-time came, and still the boys had not returned, so I went up to the inn and sat down with our friends, and later took one of the girls out in the canoe. Returning, we found the boys had come back on the steamer Ticonderoga, having had a fine day, and, in polite language, they told me how much I had missed, and described the beauties of the Chasm in such a way that I honestly believe that if anyone gets up to the lake he had better take in the trip to Ausable.

FOR THE FIRST TEN MILES THE LAKE IS LIKE A RIVER.

Saturday was clear, but with a strong wind blowing, and as we saw larger boats than ours come in looking as though they had had more than they wanted, we thought it best to stay in the harbor. The next day, Sunday, was fine and clear, and the wind having shifted to the northwest, the lake was calm. We had a late breakfast on board and then went ashore until lunch, after which we started the motor, and with our friends on board ran up the lake to Otter Creek and ascended it about four miles. One can continue on to the town of Vergennes, Vt., about seven miles up. Big trees overhang the stream, which winds and twists past the woods and on through the fields. It was a toss-up as to whether we were in Florida or Vermont, except that the heavy moss of the South was missing from the trees. If any of you are up in that part of the country, be sure to spend a couple of hours along that creek, and I am sure you will not regret it. Reluctantly we turned back, and at 5:45 we landed our friends, anchored, and again went ashore for dinner.

The following morning we had an early breakfast on the beach, and with a beautiful sky overhead, prepared to leave on our homeward trip. We were giving ourselves a whole week to get back, but were planning to make a few stops. As soon as everything was stored away we weighed anchor, ran into the public dock and got some ice and ten gallons of gasolene, then bade our friends farewell, and at 10:15 set sail.

We made the run down the Fort Frederick Light in less than two hours, and were down at our old anchorage under Fort Ti, where we stopped, at 2:05. We wanted to see the town of Ticonderoga, and as the water was very low over the bar at the mouth of Ti Creek, we all got into the canoe and paddled the mile or so up to town. On the Vermont shore, opposite the railroad station and Mt. Defiance, there is a cove which we named Spring Cove, due to the fact that down close to the shore is an excellent spring, and on our return to the boat we anchored here for the night. We wanted to reach Albany on Wednesday, so got a 6 o'clock start the next morning and made very good time all day, being lucky in finding the locks ready for us, and having very few delays, and at 2:30 were in tide water at Troy. While nearing Albany, at 3:40, the launch Adroit, of New York, at anchor, hailed us, so we ran alongside and found her broken down, with a short circuit. We took them in tow and landed at Albany Yacht Club at 4:00 p. m., where we had dinner and spent the evening in the city.

The next morning, Thursday, we got in touch with a friend who lived here, and he came down and had breakfast with us. Afterwards we went to the club, got ice and gasolene and with our friend on board started south at 11 o'clock. Soon after starting we had some trouble with the dynamo, but in five minutes had it fixed and at 12:30 landed our friend at Castleton, and pushed right on. We passed New Baltimore at 1:30, Coxsackie at 3:00, Catskill 4:50, Saugerties 6:10 and decided to make Kingston before night, so we pushed on and arrived at the Roundout Yacht Club at 8 p. m. and the old janitor gave us a good welcome. After anchoring, we went ashore and took in the sights of the park and town and had such a good time that it was midnight when we finally bunked in. We had made a run of nine hours and covered about 60 miles, somewhat slow, but the tide had been against us all the afternoon.

Friday we climbed out at 7:30 and after breakfast had quite a call from an old man in a row boat who came alongside, and from whom we purchased some fruit and heard the history of the country. We left at 9:30 and ran down by Esopus, passed the Poughkeepsie bridge at noon, and by 2:30 were at the Dock Rats' Yacht Club at Newburgh, where we took on 15 gallons of gasolene, and hauled off to an anchor.

Saturday we had breakfast at the club and at 9:30 started off for Nyack, where we had promised to make a stop. West Point was passed at 10:45 a. m., Peekskill at 1:50 p. m., and a stop was made at Rockland Landing for some ice.

On Sunday we spent the morning quietly at anchor, except for a little incident which a friend of ours from New York provided us, when, with the canoe, he brought one of the girls out to the launch. When alongside, over went the canoe. No one knows how it happened, and luckily both were good swimmers and we soon had them in the boat, none the worse for the ducking.

We had an uneventful trip down the river that same afternoon, starting from Nyack at 2:30 on the last 22 miles of our trip. The day was perfect, and we ran down under the Palisades, passing the towns of Dobbs Ferry, Hastings and Yonkers. At 5:15 we docked at Columbia Yacht Club and received a welcome fit for a full-sized yacht, and then ran out to our mooring, which had been vacant for some time, tied down, and with heavy hearts left dear old Spark. She had been shelter and home to us for two weeks and had given us a royal time, taking us safely over nearly 800 miles of the most beautiful inland waterways of the East.

Pilot Water Navigation

By COMMANDER C. S. STANWORTH

PART II.

INSTRUMENTS AND APPURTENANCES USED IN NAVIGATION

[Note.—This is the second of a series of articles on Pilot Water Navigation, or that branch of Navigation that does not require nautical astronomy, or the use of sextant and chronometer.—Editor.]

Dividers, Parallel Rulers and Protractors.

DIVIDERS consist of two pointed steel legs opening or closing about a joint that has sufficient friction to retain the legs in any set position, and are used for measuring distances on the chart. If one leg is fitted with a pencil or pen so that circles can be drawn they are referred to as compasses. As we have previously noted, if used on a Mercator chart, the distance measured must be applied to the nearest latitude.

Parallel rulers are used in laying off courses or plotting bearing and are two rulers joined together by two oblique parallel arms, so that they can be opened out. Having drawn a line on a chart representing the courses between two points, place the parallel rulers along this line and, by alternately shifting each ruler, bring the parallel rulers to the nearest compass rose, when the magnetic course can be read off. Or having taken the bearing of a lighthouse, lay the parallel rulers along this bearing at the nearest compass rose, then slide rulers as before until one edge of ruler passes through the lighthouse. A line then drawn along the ruler edge represents the bearing observed.

The protractor, of which there are many varieties, is used for measuring angles on a flat surface, such as a chart. Instead of parallel rulers many navigators prefer to use a protractor, which consists of a semi-circle or circle, generally of some transparent material, such as horn or celluloid, and graduated to degrees and points. Apply the protractor at some point where our course line crosses a meridian, with its zero in coincidence with the meridian, and read off the angle in degrees or points the course line makes with the meridian or true north. This is our true course and has to be corrected for the variation and deviation. Apply this error to the degrees or points as shown by the protractor, remembering if the compass error is easterly the correction must be applied to the left, if westerly to the right, and you have the compass course. Thus, if we find our true course to be north, and the compass error is one-half point westerly, the compass course is N. ½ E.

Barometers and Thermometers.

The barometer is an instrument used for measuring the pressure of the atmosphere, and is of great service to mariners, since it gives warning of important atmospheric disturbances. There are two varieties: the mercurial and the aneroid.

In the mercurial barometer, the atmospheric pressure sustains a column of mercury contained in a glass tube, and the pressure of the atmosphere is measured by the height of the column, which can be readily read by an attached scale. As the mercury column expands with a rise in the temperature, a thermometer is attached to the barometer, and the temperature of the mercury column is noted, so that the barometer readings can be corrected. The scale is marked with the mercury at a fixed temperature Fahrenheit, and at ordinary temperature the correction is about minus one-tenth of an inch.

The aneroid barometer consists of a cylindrical case of thin brass, from which the air has been partly exhausted. When the pressure of the atmosphere increases, it forces the sides of this cylinder together and the ends approach each other; when the atmospheric pressure falls, the air within the cylinder expands and the ends are forced away from each other. By a system of levers, the motion of the end of the cylinder is multiplied and communicated to an index hand, which denotes the pressure in inches. Aneroid barometers also have an attached thermometer, but the readings are not corrected for temperature.

Most barometers have a small correction, which can be easily ascertained by reading the barometer at the proper time and comparing the reading with the published readings of the weather bureau. In some aneroid barometers there will be found on the back a flat screw for adjusting the index hand when the error is large.

There is a daily variation in the pressure of the atmosphere, just as there is in our tides, it being high tide or maximum pressure about 10 a. m. and 10 p. m., and these movements must not be taken to mean a positive change in the level of the barometer.

Only the important atmospheric changes, covering large areas of territory, are indicated by the barometer, and one must not look to the barometer for indications of local changes, such as squalls.

A much better guide is the daily weather maps, from which one soon learns to judge the weather to be expected, while observations of the clouds will give warning of local changes. Vessels on long sea voyages have only their own observations to guide them, and the barometer is a most useful instrument with them. On board ship there is generally a dry bulb and a wet-bulb thermometer, the wet bulb being an ordinary thermometer to which is secured a small bottle of water, a wick serving to keep the bulb of the barometer moist. Evaporation keeps the wet-bulb thermometer some few degrees lower than the dry bulb, and the difference of the readings is an indication of the moisture in the atmosphere.

Log Lines.

At sea, where ships have often to be navigated by dead reckoning, some means of obtaining the speed of the ship is necessary. As most of these instruments give the speed through the water, in pilot-water navigation, where we generally have a tidal current, we can form a better idea of the speed by noting the times of passing various landmarks.

Patent logs for registering the speed of a ship generally consist of some form of a rotator, which is towed at the end of a plaited line some 300 to 600 feet long. The rotation of this propeller as it is towed through the water, twists the log line, and this twist is communicated to a counter, which has been graduated to knots and tenths. With this form of patent log, the counter has to be read at stated intervals of time, and the difference of readings gives the speed for that interval. A patent log that gives good results for a speed of 6 to 10 knots will probably be considerably out at speeds from 16 to 20 knots. Errors in patent log readings can be corrected either by a friction band on the counter, or by lengthening or shortening the towing line, the general effect of shortening the tow line being to increase the patent log indications. A form of patent log now coming into use consists of a bent tube projecting from the bottom of the ship and opening forward. The speed of the vessel forces the water up in this tube to a height corresponding to the speed. A special device corrects the errors due to varying drafts of the ship.

Chip Log. The old way of obtaining the speed of a ship was by means of a line carried on a reel, and having at the end a quadrantal piece of wood weighted so as to float upright and secured to the log line by a triangular bridle. To save the drag through the water in hauling the chip back, two legs of the bridle are secured to a wooden plug, fitting in a wooden socket secured to the log line. When ready to haul in, a vigorous pull on the line frees the plug, and the chip floats flat on the water. A certain amount of line, called stray line, is provided, to allow the chip to clear the influence of the ship's wake, and the remainder of the line is marked in lengths corresponding to the proportionate knots.

It was customary to use a 14 or 28 second glass, and when the inner end of the stray line was reached the glass was turned; when the sand ran out the line was stopped and the amount of line out gave the speed.

It will be more convenient to adopt a time interval of 30 seconds, so as to use the second hand of a watch in marking time, and if the speed is great, the line can be stopped at 10 seconds and the indicated speed multiplied by three.

To mark the log line for a 30-second interval, we have 3,600 seconds in an hour, and 6,080 feet in a sea mile, then 30:3,600:: x:6,080, in which x is the length of a division of the log line corresponding to a speed of 1 knot. This gives 50 feet 8 inches, which may be subdivided into divisions of 10.13 feet for each .2 of a knot. So, to mark our log line, allow about 60 feet for stray line, then mark off the line in as many divisions of 10.13 feet as desired with a rag, and mark each fifth division with a piece of cod line with as many knots as that division denotes.

A convenient means of estimating low speeds is to measure the distance between two marks, such as the jib and main sheet travelers and find the number of seconds it takes the boat to travel this distance at a speed of 1 knot. Now, throw over some floating object and mark the number of seconds it takes this object to pass between your marks. The number of seconds at 1 knot divided by this number of seconds gives the speed.

Coast Survey Publications.

The Coast and Geodetic Survey, under the Department of Commerce and Labor, issues a set of publications called "Coast Pilots," which are invaluable to navigators.

Parts I. to VIII. cover the coast from the St. Croix River, Maine, to the Rio Grande River, Texas; then we have the "Pacific Coast Pilot" for the Pacific Coast, "Alaska Pilot," and also the "West Indies Pilot," for Porto Rico and the adjacent islands. With each publication is a detailed chart, embracing the waters covered by the "Coast Pilot."

In this publication we find descriptions of all lighthouses, light vessels, fog signals, etc., and information concerning tides and tidal current. There is also general and detailed information about the waters; facilities for obtaining supplies, or making repairs, and sailing directions for navigating the waters.

The Coast and Geodetic Survey also publishes annually, in advance, tide tables, giving the tidal data for the principal ports of the world, and also an extract from this, embracing the tides for the Atlantic Coast of the United States. Several years ago the Coast Survey began an investigation of tidal currents in Long Island Sound, with a view to determining the best times for a vessel to enter the Sound, or get underway, and carry a favorable current as far as possible. This information proved of such practical value that the work was continued, and they now publish in the tide tables current diagrams for seven important sheets of water along our Eastern coast.

COMPASS CARD, SHOWING VARIOUS METHODS OF NUMBERING THE DEGREES.

COMPASSES.

Description, Errors, Adjustment.

The mariner's compass consists of a single magnet, or, more usually, a series of magnets attached to a graduated card, pivoted at the center and revolving freely in the horizontal plane, the earth's directive force constraining the magnets to lie in the magnetic meridian. To lessen the vibrations, the magnets are generally arranged in pairs, on either side of the North-South line of the card, and since a wire can be more uniformly magnetized, the magnets are composed of bundles of wire bound together.

The circular card is graduated around the periphery into thirty-two divisions of eleven and one-quarter degrees each, called points, and these are further subdivided into one-quarter and one-half points.

In addition, the card is graduated into degrees reading from zero to 90 degrees from North to East, North to West, South to East, and South to West. An effort is now being made to introduce a card, graduated from 0 degrees at North, entirely around to 359 degrees by way of East.

Boxing the Compass.

This is naming the points in their regular order and should be learned by all yachtsmen. North, South, East and West are called the cardinal points, and N. E., N. W., S. E., S. W. lying midway between are the inter-cardinal points. The following table gives the names of the points and fractional points.

BOXING THE COMPASS.

North.	East.	South.	West.
N. ½ E.	E. ½ S.	S. ½ W.	W. ½ N.
N. x E.	E. x S.	S. x W.	W. x N.
N. x E. ½ E.	E. S. E. ½ E.	S. x W. ½ W.	W. N. W. ½ W.
N. N. E.	E. S. E.	S. S. W.	W. N. W.
N. N. E. ½ E.	S. E. x E. ½ E.	S. S. W. ½ W.	N. W. x W. ½ W
N. E. x N.	S. E. x E.	S. W. x S.	N. W. x W.
N. E. ½ N.	S. E. ½ E.	S. W. ½ S.	N. W. ½ W.
N. E.	S. E.	S. W.	N. W.
N. E. ½ E.	S. E. ½ S.	S. W. ½ W.	N. W. ½ N.
N. E. x E.	S. E. x S.	S. W. x W.	N. W. x N.
N. E. x E. ½ E.	S. S. E. ½ E.	S. W. x W. ½ W.	N. N. W. ½ W.
E. N. E.	S. S. E.	W. S. W.	N. N. W.
E. N. E. ½ E.	S. x E. ½ E.	W. S. W. ½ W.	N. x W. ½ W.
E. x N.	S. x E.	W. x S.	N. x W.
E. ½ N.	S. ½ E.	W. ½ S.	N. ½ W.

The compass card is mounted in a heavily weighted bowl, carried on gimbals, allowing the card to remain horizontal during rolling and pitching of the ship. A vertical line called the lubber's line is marked on the inner surface of the bowl, and the compass must be so placed that the line from the center of compass card to the lubber's line is parallel to the ship's keel, in order

that the lubber's line will indicate the compass direction of the ship's head.

Liquid Compass.

There are two varieties of mariner's compasses, liquid and dry. The U. S. Navy liquid compass is a skeleton card of tinned brass, resting on a central pivot, and partly floating in a liquid composed of nearly equal parts of alcohol and water, a mixture that will remain liquid with a temperature as low as —10 degrees F.

The magnets consist of four bundles of steel wires in sealed cylindrical cases secured to the card, parallel to the North-South line, one pair along the chords 15 degrees from North, the other along the chords 45 degrees from North. The entire card weighs about 3,000 grains, but it is partly buoyed by a spheroidal air vessel, so that the weight resting on the pivot is about 75 grains. The card is contained in a cast bronze bowl, fitted with an elastic metal air chamber, that takes up the variations of volume in the liquid caused by changes in temperature and prevents the formation of air bubbles.

Azimuth Circle.

The rim of the compass bowl is turned true, and fitting loosely over it is a copper ring carrying sight vanes. By sighting through the vanes, revolving the ring—called an azimuth circle—until the line of sight passes through any object, the compass bearing of the object can be obtained. The azimuth circle is generally fitted with shade glasses, so that bearings of the sun can be obtained, and also with a mirror that reflects the sun's rays in a vertical pencil of light, giving the bearing or azimuth of the sun.

Dry Compass.

The Lord Kelvin dry compass is a strong paper card, with its center cut out and rim stiffened by a light aluminum ring. The pivot is fitted with an iridium point, on which rests an aluminum boss. Radiating from this boss are thirty-two silk threads made fast to the inner edge of the card, these threads carrying the weight of the card, and absorbing sudden shocks. Eight small steel wire needles are normally secured to two silk threads parallel to the East-West line, and are slung from the aluminum ring by other threads, the needles being below the radial threads to lower the center of gravity.

Binnacles.

Most compasses are mounted in stands called binnacles, and these may be either compensating or non-compensating. The compensating binnacle will be described in discussing the correction of compass errors.

Compass errors, variation and adjustment will be taken up in the next instalment.

(To be Continued.)

Handling Reverse Gears

THERE are two mistakes which a novice is apt to make in connection with his reverse gear. One of these is in purchasing, through a mistaken idea of economy, a gear too small for the horse-power of his engine.

It is not wise to figure that the engine builder has over-estimated the horse-power that his motor will produce and that the gear manufacturer under-estimated the horse-power which the gear will transmit. It is true that there is considerable difference in the price between the sizes of the same reverse gear, but it is a great deal more economical to pay the difference than to take chances of obtaining a gear too small for the service expected of it, and subsequently wake up to the fact that one has a heat generator in the equipment that puts the average apartment house furnace to the blush when it comes to a comparison of the rise in temperature which may be obtained.

The second mistake is in the handling of the reverse gear itself. The worst treatment to which a gear can be subjected is jamming the lever from full speed ahead to full speed astern. If anything unpleasant is going to happen, such as shearing of cogs or slipping or breaking of chains, this is calculated to produce these results with speed and accuracy. Furthermore, see that your engine is slowed down before the reverse gear lever is set at neutral, otherwise the motor will race and do more to loosen itself on the bed in a few moments of such racing than in half a season's honest, hard usage.

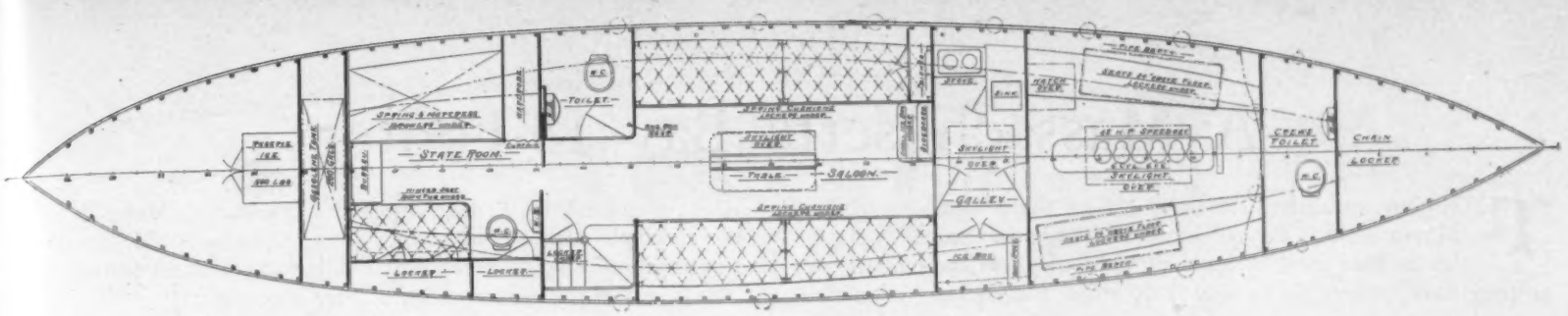
When changing from ahead to astern or from astern to ahead, slip the lever over to neutral, then gently coax the gear into place and then, when it is almost set, bring the gears into their final position with a quick, sharp jerk. One can feel after very little practice at just the point when the last fraction of an inch of motion is to be given to the lever, and this is the point at which the quick jerk should be made.

Sometimes in approaching a landing just headway enough is needed to allow of steerage way. With a reversing gear, this can be obtained by gently sliding the gear into mesh just sufficient to turn the wheel much slower than the engine shaft is revolving and then slipping back the lever to the neutral again. By this alternate nursing of the wheel the boat can be made to creep along for a moderate distance at almost any desired rate of speed.

Just because an engine may be kept running with the reverse gear set at neutral, there is no reason for doing so any longer than absolutely necessary; for a gear which will run perfectly cool on either forward or reverse may heat when running at neutral for any long period.

With a gear into which the grease or "dope" must be inserted with a grease gun, the most satisfactory way to obtain proper lubrication is to let the gear run on neutral for a few minutes, so that it will warm up just sufficiently to melt the dope as it is forced into the lubricating hole; otherwise, if treated when absolutely cold, the lubricant may clog up and refuse to feed when but a fraction of the proper amount has been injected. Keep an eye on the level of oil in your oil cups, particularly in the case of a gravity sight feed.

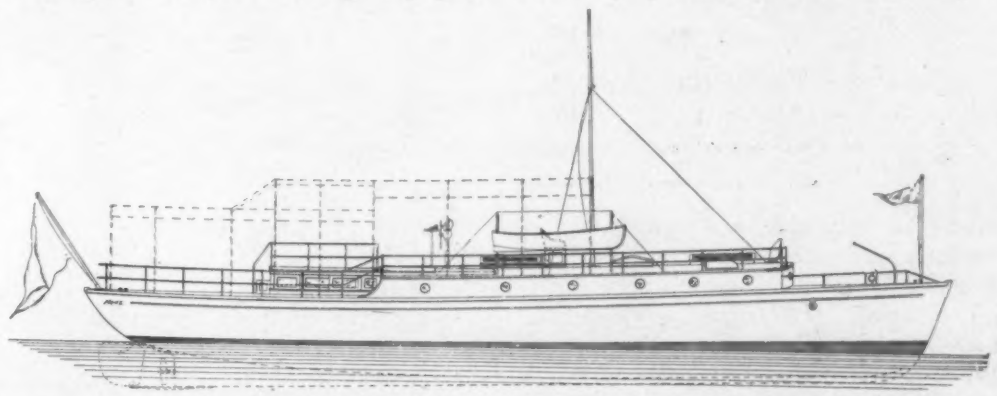
A very small amount of vibration on the part of the engine will make it almost impossible to tell, when under way, whether or not the oil is feeding properly, but the proper falling of the level of the lubricant in the reservoir shows that the tubes are not clogged.



A 65-Foot Lake Champlain Cruiser

THE 65-foot power cruiser designed and built for Mr. Clarence Morgan, of Burlington, Vermont, for service on Lake Champlain differs materially in exterior arrangement from the typical Gas Engine and Power Company's boat. The raised deck, instead of extending forward to the stem, is cut off almost square across, leaving a lower forward deck 12 feet in length, from which moorings and anchors can be handled. Aft, there is the contracted raised trunk usual in craft of this size and type, and a deck 14 feet in length. This after deck, as well as the cabin roof, is utilized for seating space, most of it being covered by an awning on metal stanchions.

The chain locker is entered by a circular hatch in the forward lower deck. Aft of this comes the crew's toilet room. Next aft is the engine room, in which is installed a 48-horse-power, 6-cylinder, 6 x 6 Speedway engine, directly over which is a large skylight. On each side of the engine room are seats 24 inches above the floor, with lockers underneath and hinged pipe berths above, giving sleeping accommodations for the crew. A hatch in the after port side of the engine-room roof gives the crew access to the deck. The galley is particularly commodious, insomuch as it runs entirely across the width of the boat. It is fitted with ice box, dish rack, sink and stove. Directly over the center of the galley is a skylight, which, while somewhat smaller than those placed over the engine room and saloon, is sufficiently large to insure the galley being a fairly cool place, even on a hot summer day.



Aft of the galley is the main saloon, about 14 feet in length, with two wide berths on each side. There are lockers under each of these berths. In this saloon, there is an extension table and sideboard, with private ice box. A stairway on the starboard side of the saloon aft leads to the side deck. Aft of the saloon is the owner's stateroom, with double bed and wardrobe on the port side, and a settee, with a bath tub underneath, on the starboard side. There are drawers underneath the bed, and a bureau is placed against the after stateroom bulkhead.

A gasolene tank of 200 gallons capacity, surrounded by water-tight bulkheads, and a reserve ice box holding 500 lbs., are situated under the after deck. From stem to stern, her deck space is surrounded by heavy brass rails, and from the signal mast aft the decks are sheltered by awnings.

Two tenders are carried on davits, and the engine control and reverse mechanism is centered at the wheel, which is located just aft of the saloon skylight. A speed of 11 to 12 miles per hour has been guaranteed. The boat should certainly prove very dry and comfortable in any kind of weather, her canoe-shaped stern reducing to a minimum the amount of pitching and tossing in a following sea.

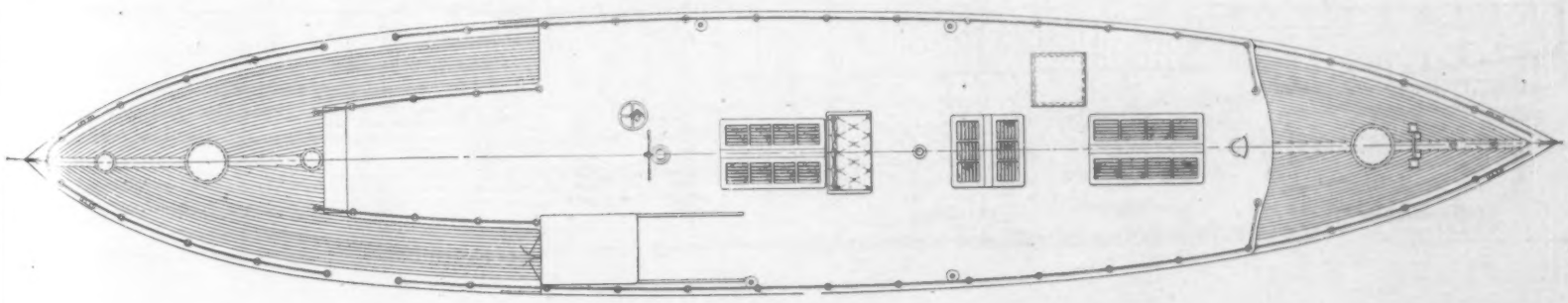
Her owner's stateroom, well lighted and ventilated and equipped with every convenience and plenty of locker and wardrobe space, should make living aboard of her during the summer not only practicable but extremely comfortable.

Her midship raised deck affords a splendid point of observation, and the position of her steersman is far enough aft for ample protection, even in a heavy blow.

The saloon is ample in size to accommodate a large party when used as a saloon, and furnishes comfortable sleeping quarters for four persons when pressed into service as a stateroom.

She represents a type of craft bound to become more and more popular, as seasons of experience teach owners that, for themselves, who are practically always aboard during the season, comfortable accommodations should be arranged, even though it be at the expense of guests who will be with them for but a few days at most.

The guest who goes aboard a yacht for a few days is, for the novelty and pleasure of the experience, willing to put up with some slight inconveniences in the way of stateroom accommodations, and there is no reason why the owner who has expended several thousand dollars for the boat, and who expects to use her continuously, should not sacrifice space that might be devoted to guests in order that he may have everything that is possible within the limits of the boat in the way of convenience, elbow room and wardrobe space.

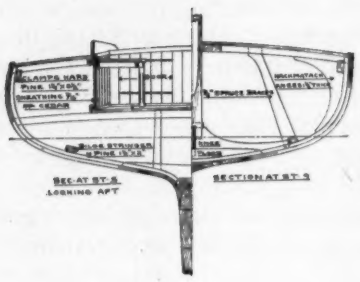


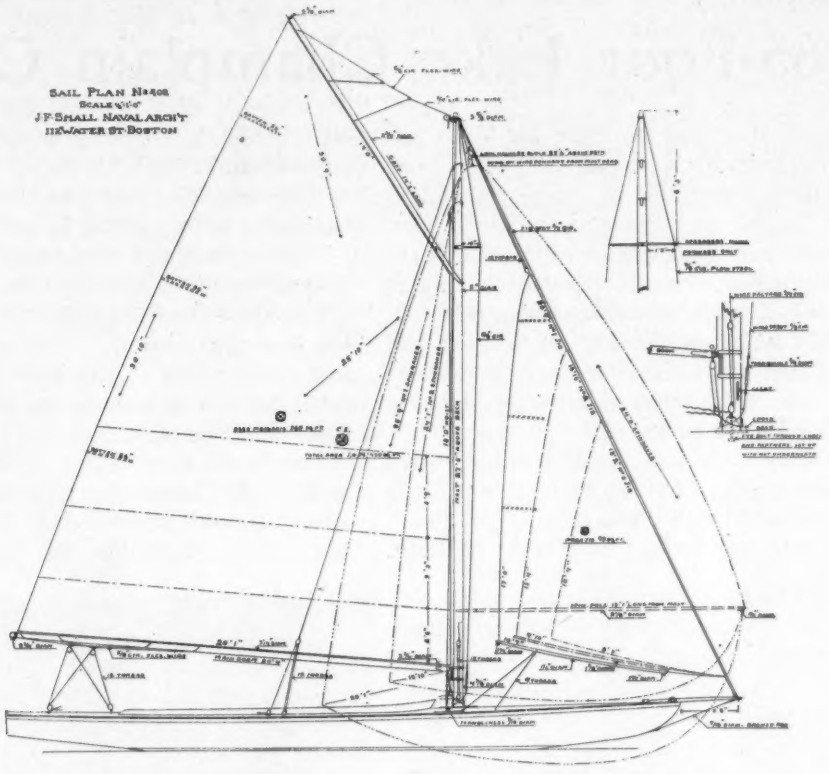
A Massachusetts Bay 18-Footer

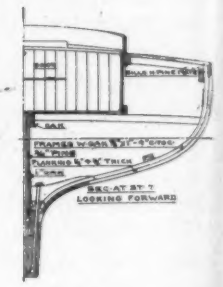
THE plans published herewith are of the Reina, one of the Massachusetts Bay 18-footers—a type that has been popular in that locality for a number of years, and justly so, as they have proved to be fine little ships for racing and afternoon sailing. Of moderate cost, very able, and extremely fast in heavy weather, they embody more desirable points, perhaps, than any class of boats of similar dimensions yet devised.

Reina was designed by J. F. Small for Mr. John A. McKie, of Boston, and, as the plans show, is of the centerboard type, which, as a rule, has not shown quite the speed of the keel boats, although the championship of the class was won by the centerboarder Dorchen in 1906 and 1908.

Reina was built by T. L. White, of Manchester, Mass., and is a fine example of the boat-builder's art. She is double-planked, the outer skin being of mahogany. All materials and fittings are of the best and the construction is very thorough.

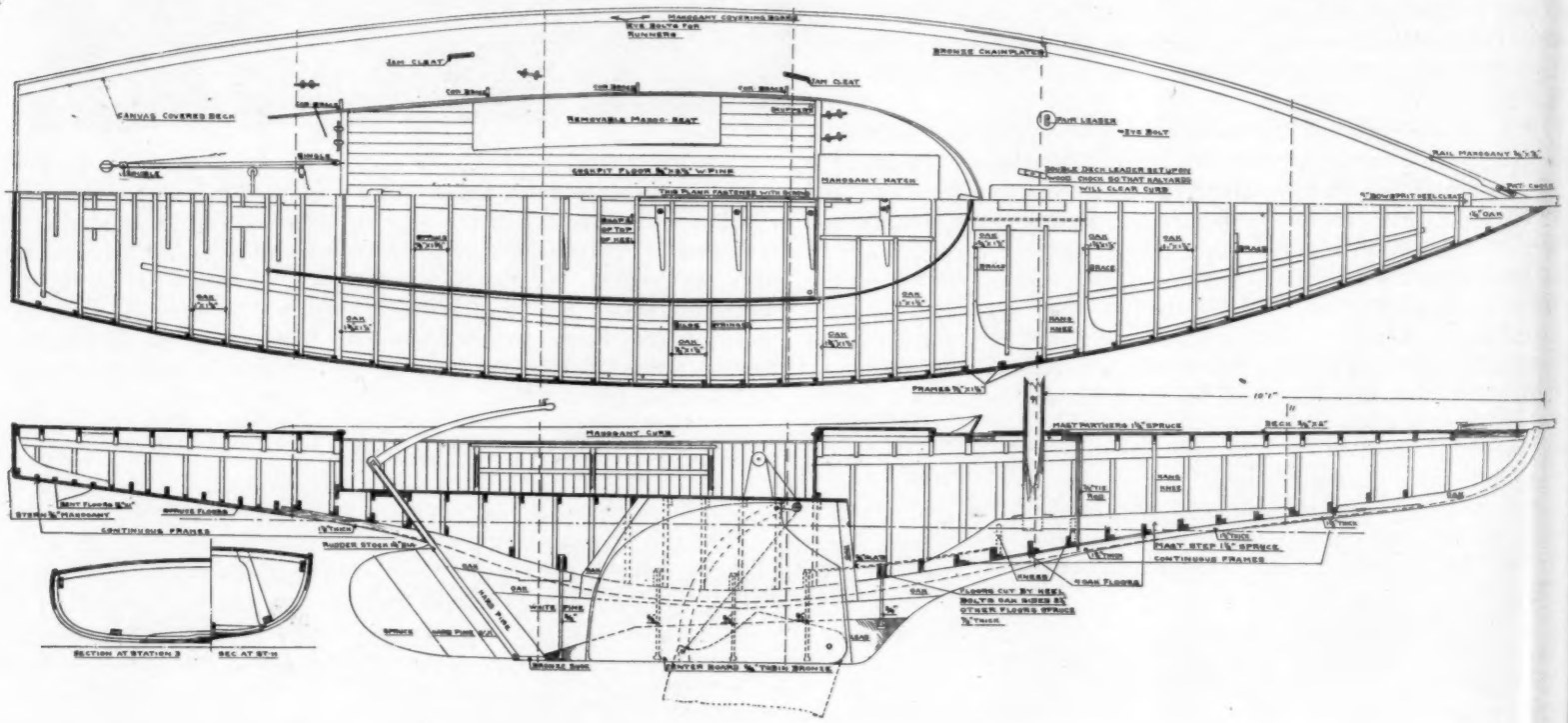


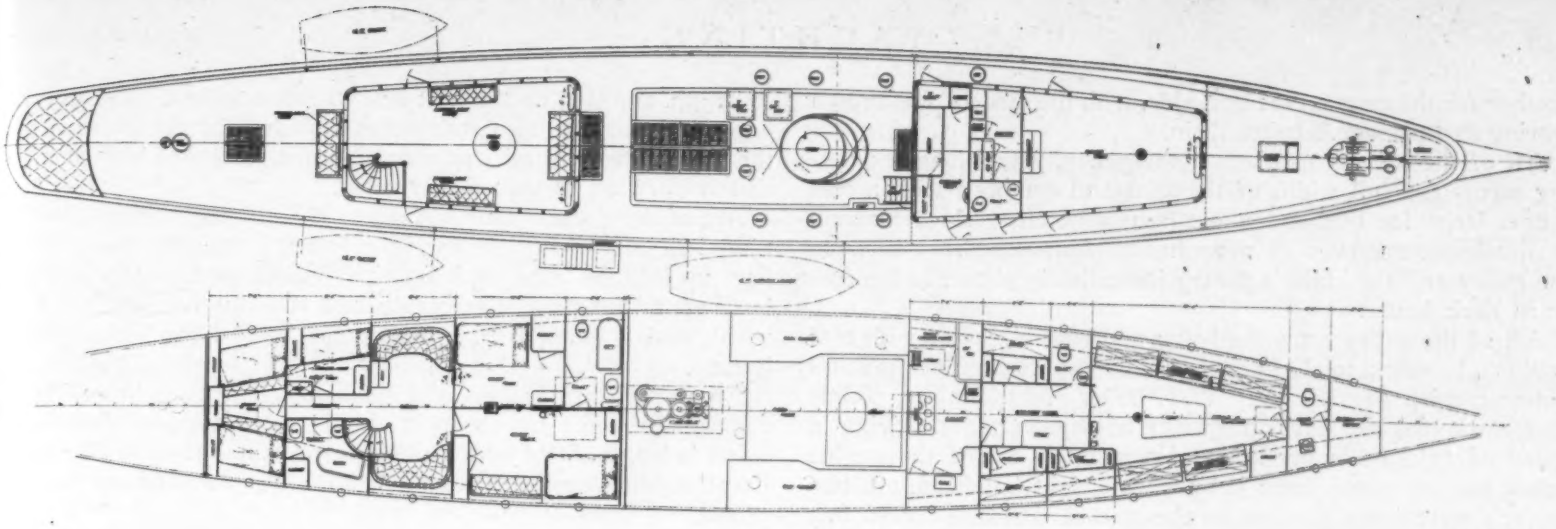




The general dimensions are:

Length over all	31 feet.
Waterline	17 feet 9 inches.
Extreme beam	7 feet 8 inches.
Draft, without board	2 feet 9 inches.
Area of mainsail	360 square feet.
Area of jib	90 square feet.
Total sail area	450 square feet.



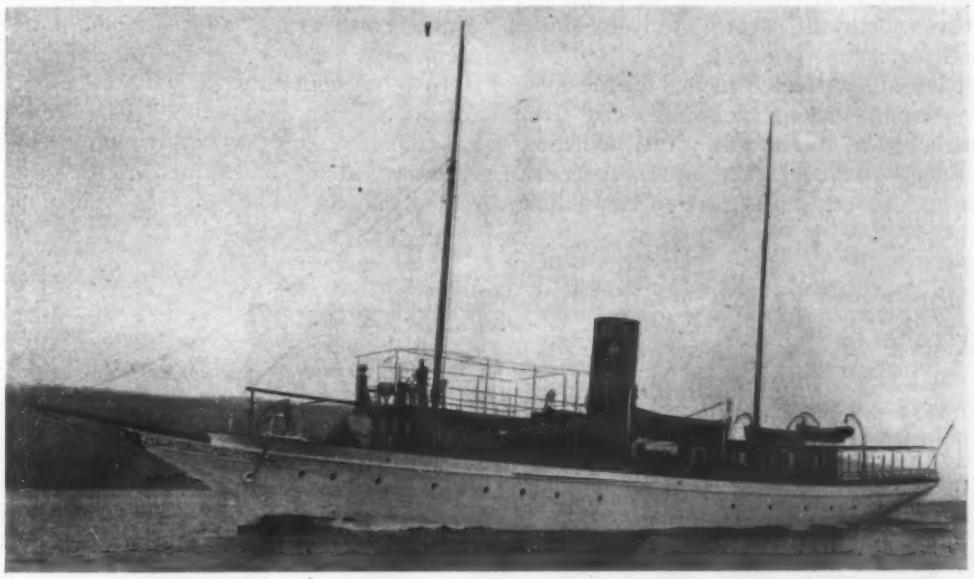


140-Foot Steam Yacht Machigonne

THE steam yacht Machigonne designed and built by the Gas Engine & Power Company and Chas. L. Seabury & Co., Con., Morris Heights, New York City, for ex-Governor Wm. L. Douglas, of Massachusetts, replaces the original Machigonne, built by the Gas Engine & Power Company for Mr. Cyrus H. K. Curtis in 1898, and sold by him to Mr. Douglas.

The new Machigonne is 25 feet longer than her namesake, being 140 feet in length over all and 118 feet 6 inches on the load waterline. She has 19 feet beam and 7½ feet draft. The steel plating is extra heavy, to meet hard-service conditions, and the scantling throughout is most substantial. The exterior finish and decks are of teak. The owner's quarters are finished in white, and the saloon and guests' staterooms in San Domingo mahogany handsomely paneled throughout.

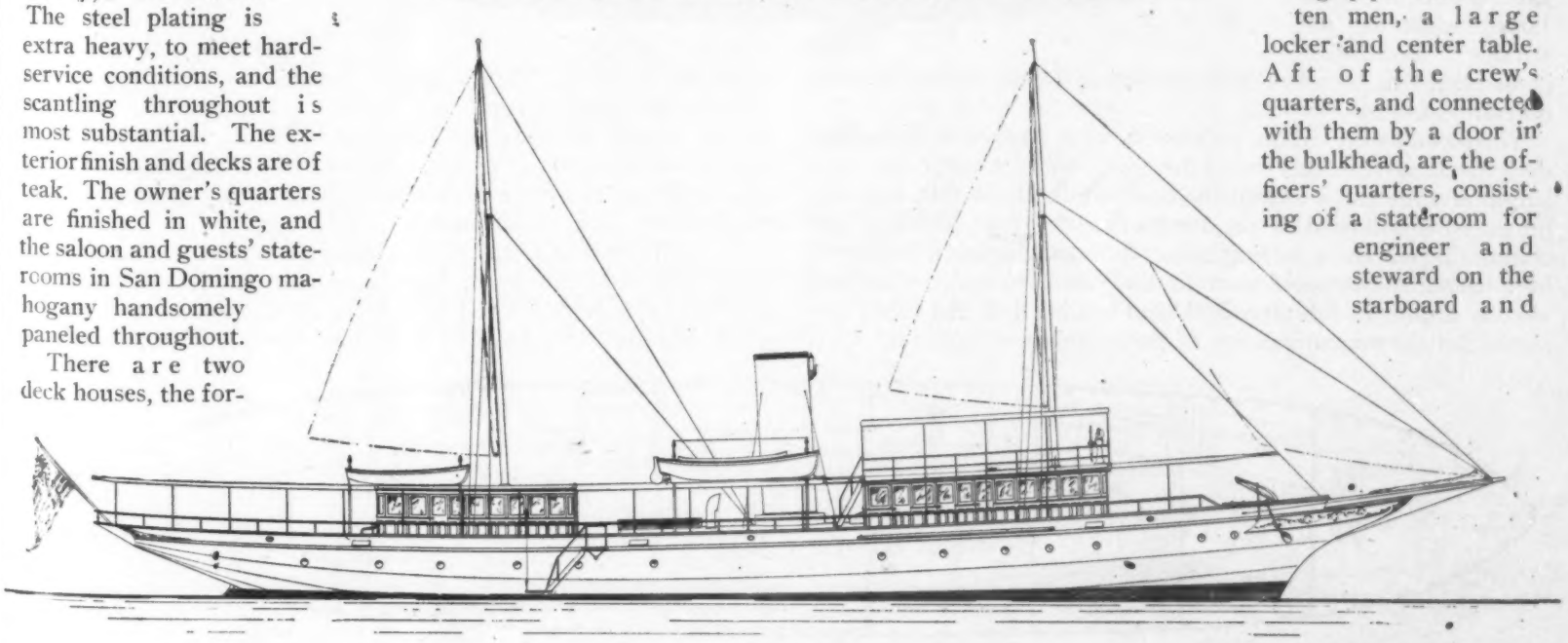
There are two deck houses, the forward containing dining room, pantry and captain's room, the after-deck house being finished as a social hall and music room, and containing the stairway leading to the quarters below.



THE MACHIGONNE, OWNED BY EX-GOVERNOR DOUGLAS, OF MASSACHUSETTS.

There is a raised trunk amidships over the engine room, and from this steps lead to the bridge deck on the roof of the forward deck house.

Below decks the first compartment is the boatswain's locker, 5 feet in length. Aft of this locker comes the crew's toilet room, 4 feet in length, and aft of this the crew's quarters, 19 feet in length, and containing pipe berths for ten men, a large locker and center table. Aft of the crew's quarters, and connected with them by a door in the bulkhead, are the officers' quarters, consisting of a stateroom for engineer and steward on the starboard and



another for the mate on the port side, with the officers' mess room serving as a passage between them.

Aft of the officers' quarters is the galley, 7 feet long, extending across the full width of the boat and equipped with a coal range, large ice box and a generous amount of locker room. A dumbwaiter serves as a means of communication between the galley and the butler's pantry immediately above, in the forward deck house.

Aft of the galley come the boiler and engine rooms, with coal bunkers, having a total of about 40 tons capacity. Machigonne's power consists of a Seabury W.T. boiler and a Seabury Triple Expansion engine, developing 450 horsepower, and giving a speed of 17½ miles per hour. Immediately aft of the engine room, and separated from it by a watertight bulkhead, are two owner's staterooms, the one on the starboard side being 16 feet in length, and that on the port side 10 feet 6 inches. The difference in size of the two staterooms is caused by the location of the bathroom, with all equipment, on the starboard side immediately forward of the smaller room.

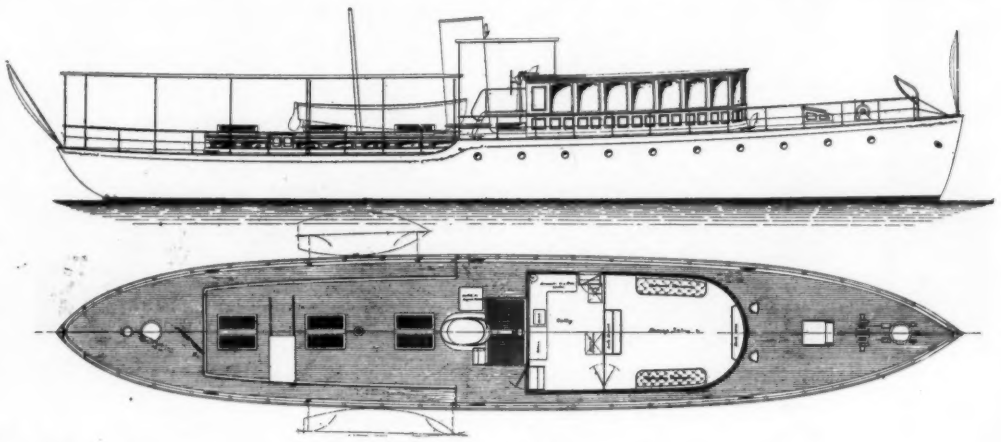
Aft of these staterooms is a saloon 8 feet long, furnished with a semi-circular divan and a writing desk. A stairway leads from here up into the after-deck house. A passage from the saloon leads aft to the guest stateroom, which runs the full width of the yacht, and is fitted with brass double beds, large lockers and bureau.

From the starboard side of this passage way a large bathroom is entered. On the port side is another guest stateroom 8 feet in length, fitted with a single berth, seat, bureau and locker. Comfortable sleeping accommodations are provided for seven people.

An 83-Foot Gasolene Yacht

THE new cruising boat recently designed by Cox & Stevens, of New York City, for Mr. Hobart F. Park, of New York, possesses many points of merit in design and interior arrangement which will prove worthy of careful study by those interested in the larger type of gasolene cruisers.

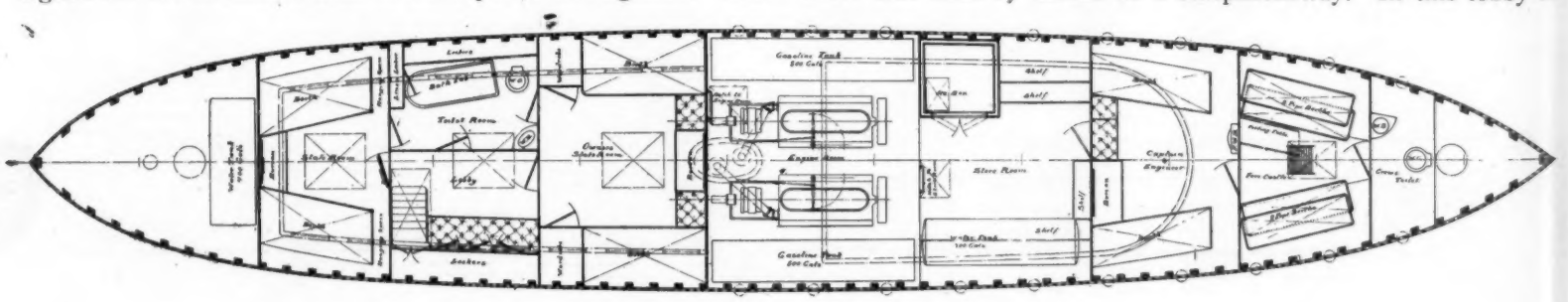
She is 83 feet in over-all length, 76 feet 6 inches on the load waterline, 14 feet 3 inches extreme beam, and draws 3 feet 9 inches of water. Her freeboard at the bow is 7 feet 9 inches, at the break of the forward deck 5 feet 6 inches, and at the stern 4 feet 9 inches. Her bow has just enough rake to harmonize well with the canoe or compromise stern.

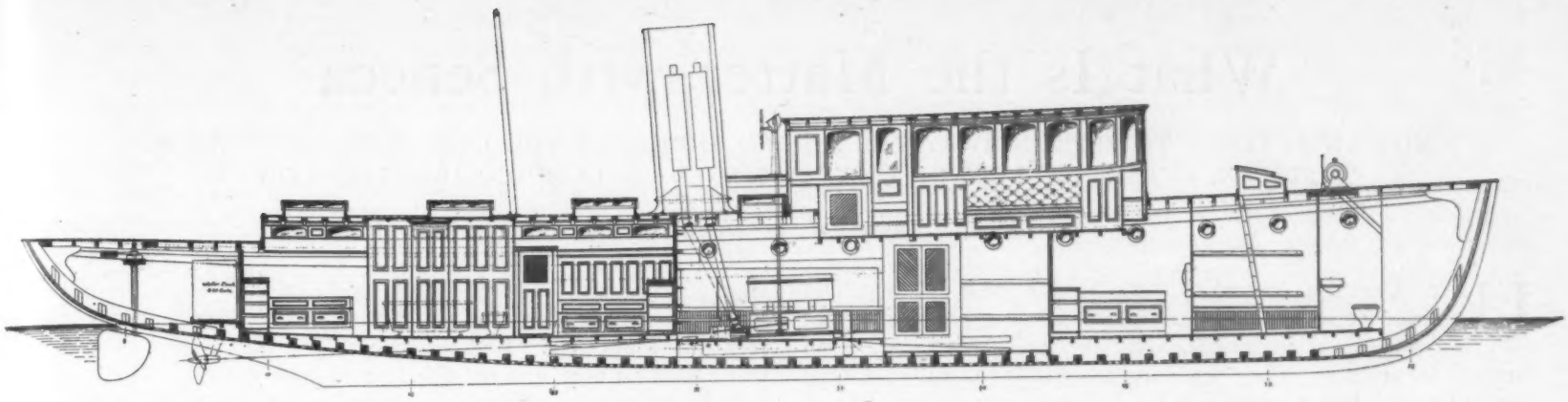


A study of her interior arrangements shows that her engines—she is a twin-screw craft—and her two gasolene tanks of 500 gallons capacity each are located amidships, with the forward end of the engines under the after part of the deck house, while the reversing mechanism is so placed as to allow full head room to the engineer when operating it.

The chain locker, in the extreme bow, is entered by a circular deck hatch. Aft of this comes the crew's toilet, 3 feet 6 inches in length and the full width of the boat, while aft of this, and separated by a bulkhead, is the forecastle, with four pipe and two transom berths and a folding table. This compartment is entered by a ladder and companionway leading to the forward deck, and also by a door in the after bulkhead leading into the cabin designed for the accommodation of the captain and engineer. This latter compartment has berths on each side, with drawers underneath, bureau and folding wash basin, and, at its after end, a settee arranged to lift up to allow entrance to the storeroom, which is also used as a mess room. On the port side of this room are a large ice box and shelves, while on the starboard side is a store room containing a 300-gallon water tank and ample space for provisions. Next comes the engine room, 11 feet 6 inches in length, containing two 60-horsepower, 4-cylinder, 4-cycle engines. At either side of the engines are the gasolene tanks, of 500 gallons capacity each. The engines exhaust through mufflers placed within the dummy stack, which also serves as a ventilation to the engine room. The entrance to the engine compartment is by means of a hatch leading to the deck on the port side. Aft of the engine room, and separated from it by a watertight steel bulkhead, is the owner's stateroom, 9 feet in length, and the full width of the boat. This is quite a luxurious compartment and contains two fixed berths, with drawers underneath, and a wide bureau against the forward bulkhead. On each side of this bureau are upholstered settees. At the after end of each side of this stateroom is a large clothes wardrobe running from the floor nearly to the deck, with a stowage shelf on top.

From the owner's stateroom a door on the port side of the after bulkhead leads into a large bath room, and a door on the starboard side leads into a lobby, from which access is had to the after side deck by means of a companionway. In this lobby is

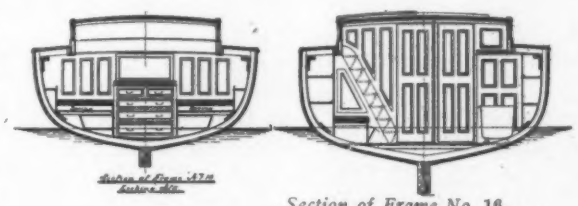




a large locker and a settee which may, when desired, be converted into a berth. A door at the after end of the lobby leads into a double stateroom, which forms the extreme after accommodations of the boat. In this stateroom are two berths, with space for hanging clothes between them and the forward bulkhead, and with a large bureau at the after end. A door from this after stateroom also leads into the bath room previously mentioned.

On deck there is a house, in the forward part of which is a dining saloon, the after end being taken up by the galley. From this galley a hatch leads to the store room beneath. This arrangement of dining room and galley in the deck house insures hot meals and a cool kitchen.

Aft of the deck house is a raised bridge, with wheel, binnacle and engine-room signals. From the bow to just aft of the dummy smoke stack the raised deck is carried across the full width of the vessel, and into this raised deck the deck house is set to a sufficient depth to reduce its apparent height. Back of the dummy stack runs a cabin trunk, with a two-foot deck on each side. This trunk extends 24 feet aft and covers owner's stateroom, lobby and an after stateroom, and has three sky lights providing ventilation for these three cabins.



Section of Frame No. 16, Looking Aft.

Aft of the cabin trunk is a deck 14 feet in length, and underneath this is a second water tank of 400-gallon capacity and space for storage, entered by a circular deck hatch. Steering bridge, side and after decks are shaded by an awning on removable stanchions, and a double guard rail extends around the sides of the boat from bow to stern.

Just forward of the deck house a ventilating cove carries fresh air to crew's and officers' quarters, while another cowl on the after deck house helps materially in cooling off the engine room. Two boats of 16 feet and of 12 feet are carried on davits.

Her designers estimate that this boat will make 13½ miles per hour, and that her gasolene capacity will give her a cruising radius of about 900 miles. For crew she will carry five men.

The owner's quarters are luxurious in their roominess, and the after double cabin is well suited for the use of guests. In addition to this, the lobby may be impressed into service as a temporary stateroom. Her dining room, which will also be used as a social hall, is light, airy and roomy, and as an observation room for use in moderately rough weather, when it is unpleasant outside, allows owner and guests to stay above deck the entire day. She should certainly prove an admirable boat for all-round cruising use.

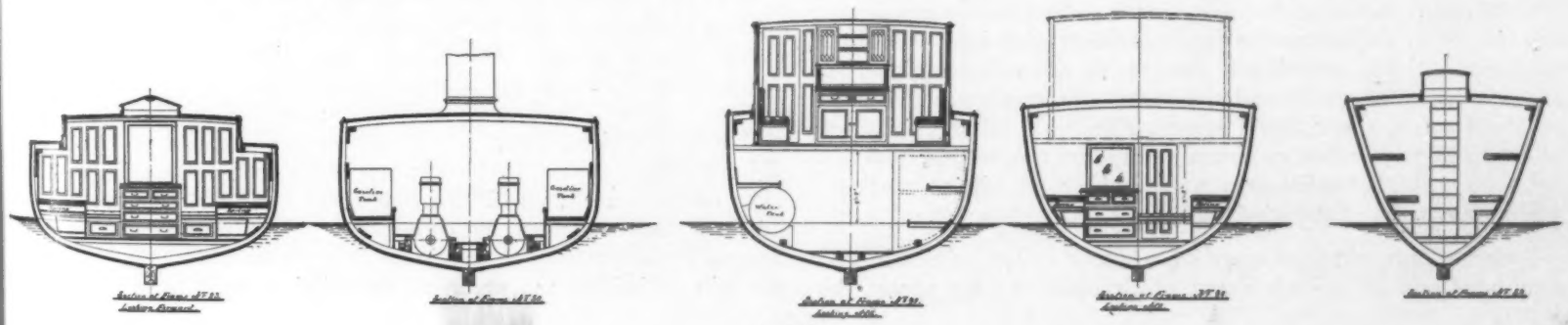
The weights are kept well toward the center and low down, and she should prove a very stable and seaworthy craft.

Her construction will be of the best. She will be double planked with yellow pine, each skin to be 1⅝ inches thick. She will also have double frames of sawed oak, 2½ by 2½ inches at deck and 2½ by 4½ inches at the keel, spaced 16 inches apart. Her keel will be of 8 by 10 oak. Deck house, decks and all wooden deck fittings will be of teak.

The engines, while rated at but 60 horsepower, have 8 by 10 cylinders, and are capable of producing 75 horsepower each when pushed. The wheel will be of manganese bronze, three-bladed, of 36 inches diameter and of 53 inches pitch. The shafts pass through brass sleeves, with both outboard and inboard stuffing boxes, the value of which is acknowledged.

Reverse mechanism, spark and throttle control are brought up through the deck to the hand of the steersman, so that the boat can be readily controlled and steered by one man. She is a pretty concrete example of the progress which has been made during the past few years in design and construction of cruising craft propelled by the internal combustion engine. It requires but a very short memory indeed to be able to hark back to the days when a boat of 55 to 60 feet in length was considered a pretty ambitious craft to be equipped with any power but steam, and in these older types the accommodations were very limited indeed, not only as regards actual available floor space, but in the convenience of the layout of the various compartments.

In craft of the modern type, however, such as this 83-footer, there is to be found not only plenty of stateroom accommodations, but a really practical arrangement for the storing of sufficient supplies to allow of a long cruise without replenishing the larder with anything but fresh stuff. Furthermore, as will be noticed, this storeroom space is so arranged as to be located in what is really the least available portion of the hull, *i. e.*, directly under the deck dining room, and in such close proximity to the galley as to cause the least expenditure of time and labor in the carrying of supplies between ice chest or storage room and the galley.



What Is the Matter with Seneca?

NOT AN ATTEMPT TO EXPLAIN AWAY THE SUDDEN ENDING OF THE SPEED WONDER'S WINNING STREAK, BUT AN ANALYSIS OF WHAT HAPPENED ON LAKE ONTARIO RECENTLY

By C. H. J. SNIDER

UP to Tuesday, August 2, 1909, Seneca, class P sloop, had never been beaten in an international contest, and was regarded as invincible, after two seasons of racing on fresh water and salt. Then began her downfall; and within a week she had established a reputation for losing almost as complete, if less conclusive, than the one she had established for winning.

Seneca, in her first season on Lake Ontario, 1907, was so immensely superior to the Canada's Cup challenger Adele—the present Eleanor—that there seemed no likelihood of a boat ever being found to beat her, and the challengers for the trophy she defended viewed with undisguised satisfaction her departure from the lakes. Next season she raced on salt water, and was, if the writer's memory fails not, only beaten once, and that was by Dorello, a larger boat. So formidable was Seneca by reputation, that the report that she was to be brought back to the lakes to defend the Canada's Cup raised a storm of protest, which culminated in the Royal Canadian Yacht Club withdrawing their challenge, on the ground that to race with Seneca would be to concede the right of the Rochester Yacht Club to draw on any yacht club in the United States for a defender for the trophy. Seneca was, at this time, still owned in New York by her skipper, Addison G. Hanan, who is a non-resident member of the Rochester Yacht Club. She was bought by Eric Moore, of Rochester, and brought up to Lake Ontario early in the season of 1909, and people sat down to see her clean up every mug in every locker on the shores of the lake.

And what happened? Seneca's first international battle was at the beginning of the Lake Yacht Racing Association's meet at Charlotte. She sailed against Crusader, a rejected Canada's Cup candidate of 1907, and Zoraya, a Canada's Cup boat of 1905, on even terms with the former, and receiving a minute and thirty-eight seconds time allowance from the latter, Zoraya being a class N boat. To the amazement of all, Seneca was beaten by both Zoraya and Crusader. Next day they raced across Lake Ontario, and while Seneca held Crusader, she was again beaten by Zoraya. After that there were three days' racing at Cobourg, where the L. Y. R. A. meet was completed, and not once did Seneca prove a winner. The record of her ruined reputation is told briefly thus:

August 3. Beaten by Zoraya 8 minutes 56 seconds, and by Crusader 4 minutes 55 seconds on 18-mile course; light winds.

August 4. Beaten by Zoraya, 47 minutes 57 seconds on 65-mile course; light winds.

August 5. Beaten by Zoraya, 34 minutes 23 seconds, and Crusader, 12 minutes 43 seconds on 9-mile course; light winds; race ordered resailed.

August 6. Disqualified for splitting Zoraya's mainsail before the start; finished with lead of 37 seconds on Zoraya; 9 seconds on Crusader, and 2 minutes 59 seconds on Eleanor; good breeze.

August 7. Beaten by Zoraya, 4 minutes 40 seconds, and by Eleanor, 10 seconds on 18-mile course; light winds.

Seneca's only victories were of a minor order. She finished 2 minutes and 48 seconds ahead of Crusader, racing across the lake, and she was leading Eleanor by 13 minutes when the latter threw up the abortive race of August 5 at Cobourg. From this record it would appear that Seneca was just able to give Crusader and Eleanor a race, and not able to cope with Zoraya. The latter, a 30-footer as we had them when she was built in 1905, is now a Class N boat under the Universal rule. She allows Seneca something like 5½ seconds per mile and can evidently afford to do so.

Seneca, in the Canada's Cup races of 1907, averaged 30 seconds a mile faster than Eleanor, and Eleanor was then handled by Canada's best amateur sailor, Æmilius Jarvis, and was faster than Crusader and as fast as Zoraya. How, then, do you account for Seneca being beaten by both the Eleanor and Crusader to-day? may be asked. Has she deteriorated?

The writer does not think so, but as he liked Seneca's looks from the moment he saw her in her cradle on a flat car before they launched her first in Charlotte, he may be prejudiced. But Æmilius Jarvis, who sailed Adele against her in 1907 and Zoraya against her in two of the recent races, says she is as fast a boat as ever; Rear Commodore Frank M. Gray, of the Royal Canadian Yacht Club, says she is as fast as ever, or can be made so; G. E. Macrae, skipper of Strathcona, holds a similar belief; and Eric Moore, her young skipper, says in a very manly way that it is a case of getting on to her curves, and that he is going to do it.

Seneca is very little different indeed from the day she sailed the last Canada's Cup race. Her white sides are as sleek and smooth as they ever were and she shows no change in shape, such as drooping at the counter or pulling up at the bow, which might be expected after two years' hard racing; especially as she was built before restrictions as to scantling accompanied the Universal rule. One of her original owning syndicate said the day she was launched: "We don't care how much of a basket Herreshoff gives us, providing she holds together till the last Canada's Cup race of this series is won."

Well, Seneca has held together, and whatever has been done to her in the way of fitting her for cruising and sailing on the lakes is much less than the equipment Eleanor, Crusader and Zoraya have added since their first racing days. The most marked change in Seneca is in her rig, and that is not a large one. When she left the lakes her sail plan had a camel's back profile, through the leach of her mainsail being humped away out by means of battens, and a sort of Roman nose, through the jibstay being thrust forward by a strut and a round headboard being carried at the top of her jib. These have disappeared probably through her canvas being worked out and having to be recut to suit her measurement, which she fitted like a tomato fits its skin. But she has the same gaff, same boom, same hollow mast and same canvas.

Seneca's failure is all due to one thing—lack of proper handling. This is not intended as a harsh criticism, and the man who offers the suggestion does not for a moment profess to be able to give Seneca's new skipper, Eric Moore, any time allowance. But Moore, who is new to the boat and gained most or all of his experience sailing the centreboarder Genesee, does certain things with Seneca which Hanan, who sailed her to victory for two years, did not. Moore sailed her, in the first battle with Zoraya, jammed close on the wind, with his mainsail, a flat sail with little draught or flow, hauled almost flat amidships. Hanan never did that. Seneca is wonderfully close-winded, but she is not a motor boat. she will sail within 2½ points of the wind on each tack, but she

will not sail in the wind's eye. Moore kept his crew aft, away aft. Hanan didn't. Seneca, with her "hollow ground" bow, naturally gets down by the head easily, but her new skipper appeared to err towards the opposite end.

It is perhaps expecting too much from a young skipper that, three months after coming into possession of a finely adjusted racer like Seneca, the first of the kind he has ever handled, he should be able to defeat, every time he meets them, boats sailed by men who have had them for two years, or boats sailed by the greatest of skippers on fresh water, Æmilius Jarvis. Young Eric Moore is a good sailor and a coming one, and he made hosts of friends by his cheerful grin in the face of adversity. It must be remembered also that Seneca has always had a record for being a boat where the personal equation counted high. Addison Hanan could do anything with her; but until he took her over for the Rochester Yacht Club the local skippers who had been trying her out had not been able to make a conspicuous success of the Herreshoff flyer. She was tried out against Genesee, Kee Lox and Iroquois in 1907 with such indifferent results that one of the wisest of the Canadian challengers was willing to bet money, before the R. C. Y. C. representative was chosen, that no matter whether Adele, Crusader or Aileen was the choice the cup would be brought home easily. This was before Hanan took charge of Seneca; after that it was entirely another story.

No, the writer does not think Seneca has "gone back." But he does think she needs Hanan.

British Motor Boats

LONDON, August 15, 1909.

I DARESAY marine motorists in the United States were disappointed at the inability of the Motor Yacht Club to go on with its challenge for the British International Trophy. We were not too well pleased at the withdrawal ourselves; but in the circumstances it was unavoidable. On this side, the majority are consoling themselves with the reflection that if we did not have a race this year we shall have all the more stirring a contest next year. Personally, I do not think we shall. On the contrary, I incline to the view that if the Deed of Gift is not altered you will be at liberty to put the trophy in the cupboard with the America Cup. Please do not mistake this for a jaundiced opinion. Naturally, I would much rather we had the cup than you; but as matters stand we can only hope to regain it by building a boat especially for the race. On our side of the Atlantic the big class of racers is by international rule a group of 50-footers. If we do not build to that class—if we built instead to the 40-foot class, with the intention of sending a boat across next August, the owner of the challenger would be barred from using his expensive boat not only at Monaco, but in every Continental country and in Great Britain as well. That is quite clearly too much to ask men like the Duke of Westminster and Lord Howard de Walden to do, because, although both have the money to burn on fleets of speed craft, it is sport they are out for and not glory.

If your people make the length limit 50 feet instead of 40 feet, I am tolerably certain you can have a race next year and a beating. We are doing pretty well now with big boats, as you may have heard. The Saunders hulls of Ursula and Amazon are tip-top jobs, and stand the enormous power of their engines very well. They seem to me to represent better boat building than even the Daimler and the Wolseley-Siddeley, which you saw last year, and that Wolseley-Siddeley's was a good hull is proved by the fact that it is a cabin cruiser this year with a 40-horsepower engine, giving a speed through the water of 12 knots. As Baron von Bissing's Hova it has stood any amount of knocking about in the English Channel this year, and is apparently none the worse. I have not up to the time this message is written seen the engines of Amazon. But Ursula's Wolseley motors are a fine bit of engineering. They are twelve-cylinder engines, and in two of them there is 750 horsepower. Their weight is 8¾ pounds per horsepower, which is an improvement on the eight-cylinder jobs of the first Wolseley-Siddeley. But there is nothing to wonder at in the achievement considering that the makers have for a long time been developing the petrol engine for dirigible balloons and aeroplanes and for submarines as well. They showed some very light airship engines at Olympia in the spring. Their connection with submarine construction is due to the fact that they are associated with Vickers' Sons & Maxim, who are the owners in Europe of the Holland patents and are sole contractors to the Admiralty for submarines. Striking though their successes with petrol engines have been, I imagine, however, that it is towards a good paraffin type they are working. Our naval authorities do not like what you call gasolene.

We have no 40-footers this year of any speed. But we are fairly strong in racing cruisers of 6½ to 8 metres. There is a new Gyrinus with a Thornycroft engine, Lucinha with a Napier, and Brabançonne with, I think, a Metallurgique. Lucinha and Gyrinus are 22-knot boats, and Brabançonne ought to be. Secret, which was at Monaco, is doing 17 knots with the liners out of the cylinders of her Ballot motor; but on Marine Motor Association rating and time scale a little boat called Defender II, with a 7-horsepower Sizaire engine, is taking all the prizes from her. Commander Cumming, of the Motor Yacht Club, has used the old hull of Berliet to experiment with a Silent Knight engine. He calls the boat Compulsory and expects his friends to see the joke without a chart. We shall no doubt hear more of the experiment in another year. One or two American engines continue to do very well. Mr. R. N. Fairbanks has further improved the position he won last year, and as a result one hears less said against American engines than was the case. There is a nice-running Fairbanks on a 16-knot boat called Lotus. Mr. Fairbanks himself has another Camilla. Mullins pressed-steel boats are also being pushed vigorously both on the Thames and on the Clyde, but it is early yet to talk of the prospects of business. We are very conservative in this country, as you have no doubt heard.

So far the honors for hydroplaning seem to rest with the Thornycrofts, although Lord Hardwicke's Fauber is an interesting vessel. Sir John Thornycroft, who has an experimental tank in the grounds of his residence in the Isle of Wight, evolved a hydroplane model which pleased him so much that he could not resist the temptation to embody the idea in an actual boat. This boat is 22 feet long and 6 feet 10 inches beam. Her underbody is like that of a flat fish, and her upper structure like a whaleback. Her motor is a 40-horsepower like that in Gyrinus. She has only one step, and that is under the forefoot; and when she travels at a high speed—her maximum in smooth water is, by the way, 27 knots—she "rests" on this step and on a small part of the underbody aft. She planes all right, and as she travels right you can see daylight under her. Originally she had a rudder of the usual kind in the usual place, but it interfered with the action of the propeller and Sir John took it off. When I was on the boat she was steering like a taxicab by means of a small rudder fitted to the after end of the step. Sir John intends to retain this rudder for use when the vessel is "up" and to fit a larger rudder astern for use when she is "down."

ROBERT MACINTYRE.

Published by the Yachting Publishing Co.: Oswald Garrison Villard, President; Herbert L. Stone, Secretary and Treasurer.

No International Motor Boat Race. In the failure of England to live up to her challenge for the British International Trophy there is felt keen disappointment here and abroad. The reason for the withdrawal of the challenge at a late date appears to have been on account of the failure to obtain a suitable challenger. With the racing both in England and on the Continent confined to the 15-metre or 50-foot class no one could be found willing to finance the building of a boat that would be of value only for this race and, in the event of her failure here, utterly useless to her owner. In the 50-foot class, England has been remarkably successful, as witness Monaco this year, and such men as the Duke of Westminster and Lord Howard de Walden, owners of last year's challengers, and others who are devoted to the sport, have gone in for the larger class and, naturally, are not keen to build 40-footers with the uncertainty as to the outcome.

In England they are already saying that we will have to change the Deed of Gift of the trophy to include 50-foot boats if we are to have races in the future (talk that reminds one strongly of America's Cup racing), and undoubtedly they are right, so long as the present tendency is towards large boats on the other side. They have an idea that they can beat us handily in the 50-foot class, and, judging from the performance of Standard at Monaco, they are justified in that belief. But they were just as sure when they came last year with Wolseley-Siddeley that they would take the trophy home with them; and yet Dixie showed them the way. We are not prepared, of course, with a 50-foot boat, and we might be found wanting with our limited experience in boats of that size, but if they are waiting on the other side because they think they have a better chance in the larger class they may find that our Monaco experience with Standard has furnished us with a valuable lesson.

If a British challenger had arrived on time it would, doubtless, have found us as unprepared as we were last year. We have the new Dixie, of course, and it appears as if we were content to sit still and pin our faith to her. She has been doing better than at Monaco, and in some recent racing did as high as 35½ miles per hour. This is a higher speed than was attained in the international races last year, but yet not as high as Dixie II attained later in the year; and a challenger that showed any approach to the new Wolseley's speed at Monaco would have made the cup totter.

We certainly ought to be doing something more in the line of fast boats, especially in the larger class. We also ought to be getting some experience in racing boats with two and three engines. It is not safe to wait until the last moment and trust to a designer's ingenuity to turn out a world beater. Even designers must learn by experience. We hope to see America represented at Monaco next year, and we also hope to see England send a boat after the Harmsworth Trophy next summer, but we also want to see our boat and engine designers given a reasonable amount of experience on which to turn out a winning boat.

As Regards Class Rating. Rules which are passed with the best intention of correcting abuses that need restricting at times work regrettable hardships on those they are not meant to touch. An instance of this may be found on page 21 of the yacht-racing rules of 1909, in the following paragraph: "Each yacht of 38 feet rating measurement and under, launched after January 1, 1905, and each yacht over 38 feet rating measurement, the keel of which was laid after January 1, 1909, except those in the first class of schooners, sloops and yawls (100 feet rating measure and over), shall rate at the highest limit of its class when racing in its regular class." In other words, any boat rating even at the foot of a class, say 26 feet in the 31-foot class, will have to race against the latest creations of her class—31-footers in this case—without receiving time allowance.

The injustice of this is self-evident. The older boats are theoretically (and one can only go by theory) given absolutely no chance. Of course, no one can dispute that the rule is a good one, both because it avoids the repetition of such disturbing occurrences as the appearance of an Avenger in a popular and well-balanced class, and also because it saves racing committees a great deal of unnecessary trouble in figuring out allowances and calculating corrected times. Still, it really seems as if there might have been some means of allowing the older craft a look-in. At present the products of recent years are not only penalized by the new system of measurement, but also by this class-rating rule. It seems like piling it on, and certainly if there has been any advance in yacht designing during the last four years the new boats ought to have it pretty well their own way.

Amateur Seamanship. It is gratifying to note, as the season's list of long-distance races and cruises is being run off, the higher order of seamanship that is being displayed by Corinthian skippers generally. Only five years ago, when the first outside race to Marblehead for sailing yachts was run, there were but few amateurs who would venture the trip without professionals on board, whereas at present, on small boats, professionals are looked upon rather as a detriment than a help. All of the ocean races are well filled, and, in nearly every instance, the boats are ably handled. This applies to motor boats as well as to sailing yachts, though with the former there are usually fewer years of experience back of an owner to assure his confidence. In proportion, however, to the length of time he has been at it, experience and assurance are coming proportionately faster than they did to the skipper of the sail.

When we see over 40 starters in the Block Island Race, 14 in the race around Long Island, with equally large fields in the races on the New England coast and the Great Lakes, one realizes what the amateur is doing. In this year's Marblehead Race for power boats, which was all outside work, 12 boats started, and while there were professionals on a number of them, those that were in charge of Corinthians apparently did equally well.

In the recent cruise of the New York Yacht Club around Cape Cod, a brisk summer gale was met, which, unfortunately for the smaller boats, came out ahead. Although the racing boats of the fleet were not built for such strenuous weather conditions, and a number of them came to grief as concerned their top hamper, they were generally ably handled, and while all of them could not hang on to the end of the course, it was due more to limitations of the boats under the weather conditions than to the inability of those handling them.

Your Yacht Needs

3 in One Oil because it is the only preparation on land or sea that prevents tarnish and verdigris on brass trimmings and parts and keeps them spick and span after cleaning.

3 in One also cleans and polishes all nickel parts and metal surfaces and absolutely prevents rust, on fresh or salt water, in any climate.

3 in One cleans and polishes veneered and varnished surfaces, removing all spots and scars and immediately restores the original lustre and bright finish to any fine woodwork.

Try for oiling motors, fans, electrical machinery, phonographs, guns, revolvers, all kinds of tools, etc. It is the only oil that lubricates "just right" and will not gum or collect dust.

FREE Write for generous sample bottle and 3 in One Dictionary, both free.

3 in One Oil Co.

27 Broadway, New York

"REGAL Users Write Our Advertisements"

"ENCLOSED please find photos of the little launch 'Euphrasine', equipped with a 5-h.p. Regal Engine, towing a barge 31 ft. long by 18 ft. beam, drawing 3 ft. of water. The barge is loaded with 75 barrels of rosin, weighing 500 pounds each, and with this load I am able to make 10 miles in 3 hours against a current of 3 miles an hour. Have been making this run regularly for over 2½ years. The launch makes 9 miles an hour when not loaded." —A letter from a Florida user.

REGAL MARINE ENGINES

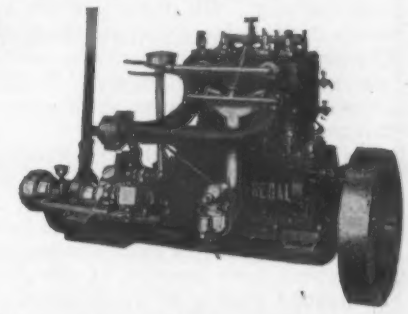
are made for High Speed and for Heavy Duty Service, conservatively rated from 3 to 45 h.p.; 1 to 4 cylinders. Satisfactory operation is guaranteed. Our new Catalogue No. 6 sent free.

See our Exhibit at the Seattle Exposition

REGAL GASOLINE ENGINE CO.

52 West Pearl Street

COLDWATER, MICH.



Representatives wanted
Write for terms

KYANIZE SPAR FINISH

The most durable exterior varnish in the world.

Nearly **12,000 gallons** furnished the **United States Navy** during the last year is sufficient proof.

Ask your dealer or write us direct.

$4.00 a gallon, express prepaid.

BOSTON VARNISH CO.

BOSTON, MASS.

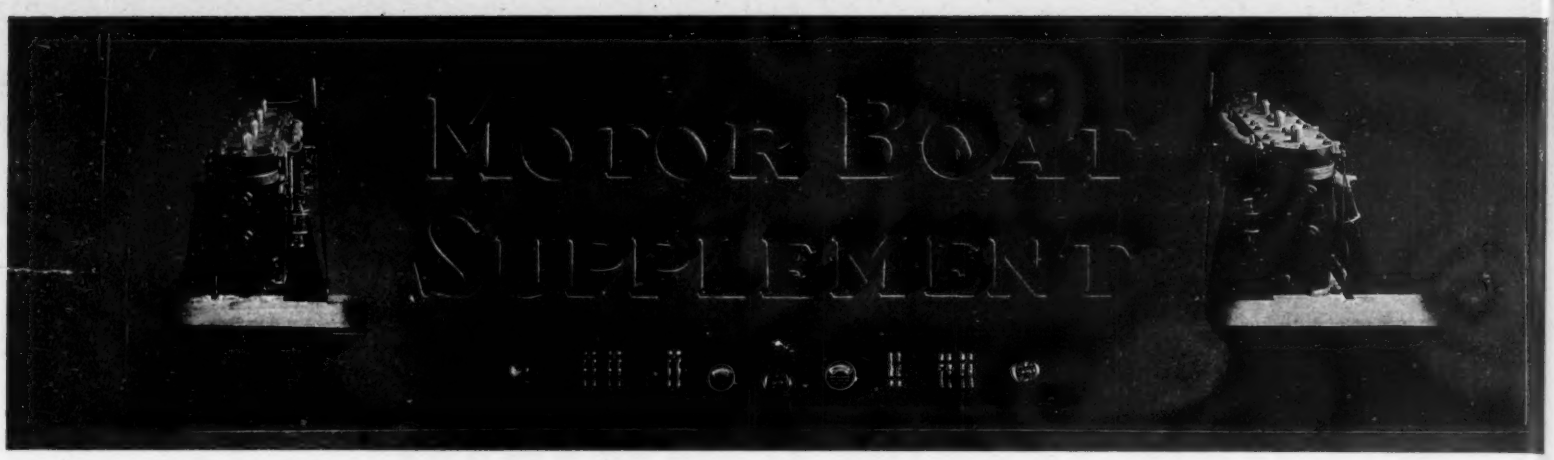
SHIPMATE RANGES

8 SIZES 11 STYLES

Three centuries have rolled around
Since Henry Hudson came
With his renowned "Half Moon," and found
The stream which bears his name.
Scant comfort had sea-faring folk
Who sailed for countries new,
Their range was but a fire on sand,
The good things cooked were few;
They knew not what a Shipmate does
For captain and for crew.

THE STAMFORD FOUNDRY COMPANY

Established 1830 STAMFORD, CONN.



A Practical Illustration of the Advantages of a Marine Insurance Policy The following communication, received by us from the owner of the Kitcinque, is one of the best illustrations which can be given of the value to the boat owner of an insurance policy in a reliable company:

NEW YORK, August 10, 1909.

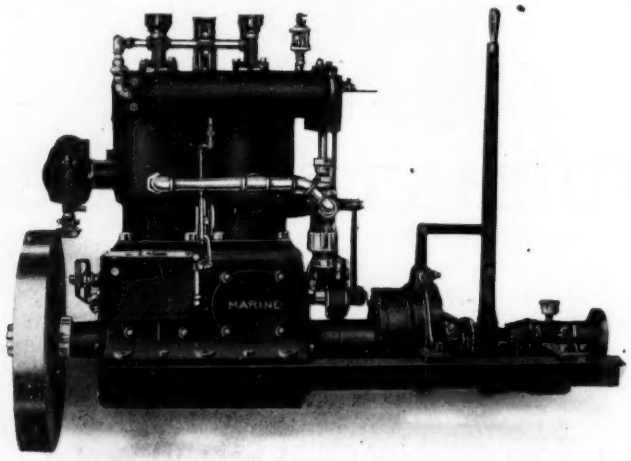
YACHTING, 20 Vesey Street, New York.

GENTLEMEN: No doubt you are aware that my yacht Kitcinque was totally destroyed by fire in the Marblehead race. I know that the Insurance Company of North America is one of your advertisers. My boat was insured with them on July 14. On July 17 she was burned. I presented proofs of loss on July 30, and ten minutes after I was handed a check by this company.

As I have such a high appreciation of their promptness in settling, and the lack of quibbling and red tape which one often hears occurs in the collection of insurance losses, I feel that it is not inopportune for me to write to you advising you of these facts, as I believe this matter is of vital interest to all motor boat owners. I also feel that in justice to your advertisers some mention of this should appear in your columns. The Insurance Company of North America has advised me that they have been in business so long that they do not feel disposed to advertise individual prompt payment of losses, but I feel that I would like to do my share towards educating all motor boat owners concerning the benefits which may be derived from insuring with this company. I should be glad to have you publish any or all of this letter.

Yours very truly,
FRANK D. GHEEN.

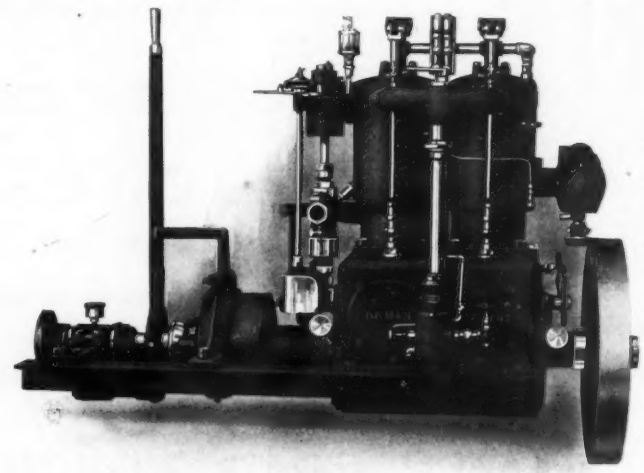
A Well-Constructed Marine Engine and a Liberal Guarantee The H. C. Doman Company, of Oshkosh, Wis., U. S. A., have been building motors and engines of the standard four-cycle type, with jump-spark ignition, for the past fourteen years. During that time their products have gained a reputation for being high grade in every particular. "Doman" motors and engines are recognized as one of the leading marine engines of America, and are noted for high grade of design, construction and material, and possess, in a high degree, the qualities of reliability, durability, simplicity, efficiency, economy and power.



Port side of 2-cylinder 10-horsepower Doman Engine.

Built in a factory devoted exclusively to the manufacture of marine motors and engines, and equipped with the latest and most modern machinery, all parts are made after jigs and tenplets, thereby assuring absolute interchangeability. The motors are perfectly balanced, thus eliminating all vibration. Every part is accessible. "Doman" motors develop their rated power at normal speed, and their extra long bearing surfaces insure long life under service conditions.

Every motor is given a day's test, and the performance is carefully observed and checked. After the motors have passed the test room they are taken to the enameling room, and after enameling are placed on the tester again, for the purpose of making sure that all parts are properly reassembled after being enameled. Each motor is equipped with the latest features, such as mechanical force feed lubrication, mechanical inlet and exhaust valves, perfect oil circulation in the base, and water-cooled exhaust piping. Cylinders may be removed without disturbing the crank shaft, timer, pump or base. The design is both symmetrical and compact.



Starboard side of the Doman Engine.

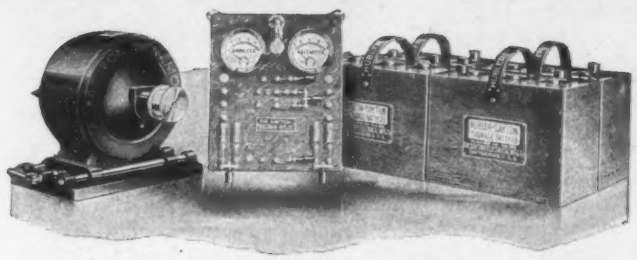
The motors and engines are guaranteed for one year against imperfections in workmanship and material, and any defective part will be replaced if returned to the company, providing the damage did not occur through improper use or neglect. Wherever Doman motors have been used they are recognized as a splendid example of the marine internal-combustion engine.

The Doman is built in the following sizes: Five horsepower, two-cylinder; 8 horsepower, three-cylinder; 10 horsepower, two-cylinder; 15 horsepower, three-cylinder; 20 horsepower, four-cylinder; 30 horsepower, four-cylinder; 30 horsepower, six-cylinder; 45 horsepower, six-cylinder; 55 horsepower, four-cylinder; 200 horsepower, eight-cylinder. The heavy duty engines at present are built in the following sizes: Twenty horsepower, two-cylinder; 30 horsepower, three-cylinder; 40 horsepower, four-cylinder.

A Well-Wearing Paint and Some Happy Boat Owners Those yacht owners who finished their boats with Enamolin at the beginning of the season are congratulating themselves on having done so, as their boats are now as white and fresh looking as when they were first painted; whereas the yacht owners who covered their boats with the old style of paints have either had to repaint them or now see the necessity of doing so.

The manufacturers of Enamolin guarantee it to wear perfectly for at least one whole year without any renewing, and that at the end of the season it will not have checked, peeled, cracked or flaked, but will have retained its original whiteness without discoloring at the waterline.

Another advantage that the manufacturers of Enamolin claim over other



An Electric Lighting Plant Right on Your Boat

The evenings are somewhat shorter now.

You can realize better than ever before how much it would add to the pleasure of a cruise to have a Dayton Electrical Lighting Outfit on your boat.

A Searchlight to pick out your course.

Bow and riding lights that *will not* go out, no matter how hard the wind blows, or how high the waves run.

Cabin lights that flood the interior of your boat with brilliant, steady, white light, without a flicker to bother the eye, or an unpleasant odor to assail the nostrils, and make the air unfit to breathe.

All these lights at no expense beyond the first cost of outfit, and to be had at any time by simply turning on a switch. You don't even have to carry a match on board.

Oil and matches are good things to leave on shore, anyhow.

How It Works

We build Dayton Launch Lighting Systems in three sizes, to fit the smallest or largest motor boat.

The current is generated by our Dayton Dynamo, a compact, dust, oil and water-proof enclosed dynamo, that runs by contact with your engine.

Current thus generated is accumulated in our Hubler-Dayton Storage Battery, the best storage battery ever devised for marine use, and from the battery it is drawn by the lamps as required.

Dayton Launch Lighting Outfits

This double source of current insures against accident. You always have current whether the dynamo or engine is running or standing still.

The switchboard gives you complete control of the system. With it you can light any or all lights as desired, cut out storage battery or dynamo as you wish, and a meter, gives the amount of current on hand, and the rate at which it is being generated and used.

A Perfect Ignition System Without Cost

One feature of this system that has appealed to many boat owners is that the current generated by this outfit can be used for igniting the engine, and insures a constant supply of steady current, of even voltage for that purpose.

The dynamo is similar to the famous Apple Dynamo which we have made and sold for over twelve years. It is known among motor boat owners as the most reliable ignition device known.

We also make the well-known Hubler-Dayton Storage Battery, and every article necessary to properly ignite a gas engine. We are to-day the largest manufacturers of ignition apparatus exclusively, in the U. S.

Our experience is at your service. Write us at once for complete information about the Dayton Launch Lighting Outfit, or any of our ignition specialties.

The Dayton Electrical Manufacturing Co.

Largest Manufacturers of Ignition Apparatus in the World
99 ST. CLAIR STREET . . . . . DAYTON, OHIO

MOTOR BOAT INSURANCE

The Oldest Stock Insurance Company in the United States

FOUNDED IN 1792

STATEMENT OF CONDITION JANUARY 1, 1909

Cash Capital	$3,000,000.00
Total Assets (all securities being valued at market prices Dec. 31, '08)	12,014,062.63
Total Liabilities except Capital	7,263,156.97
Surplus to Policy-holders	$4,750,905.66
Total Income from all sources in 1908	8,463,039.44

The "Old North America," with a policy holders' surplus of over **$4,000,000,** continues to offer to the insuring public indemnity against Loss or Damage by Fire, the Perils of the Sea, or Tornadoes, of unquestionable reliability, and since its organization has paid the sum of **$140,333,009.59** in losses to its policy-holders.

Insuring of Motor Boats

and Other Marine Craft a Specialty

Send for sample of our Liberal Marine Policy which explains it all, and can be obtained at any agency of the Company or at the home office.

Insurance Company of North America

3rd AND WALNUT STREETS, PHILADELPHIA, PA.

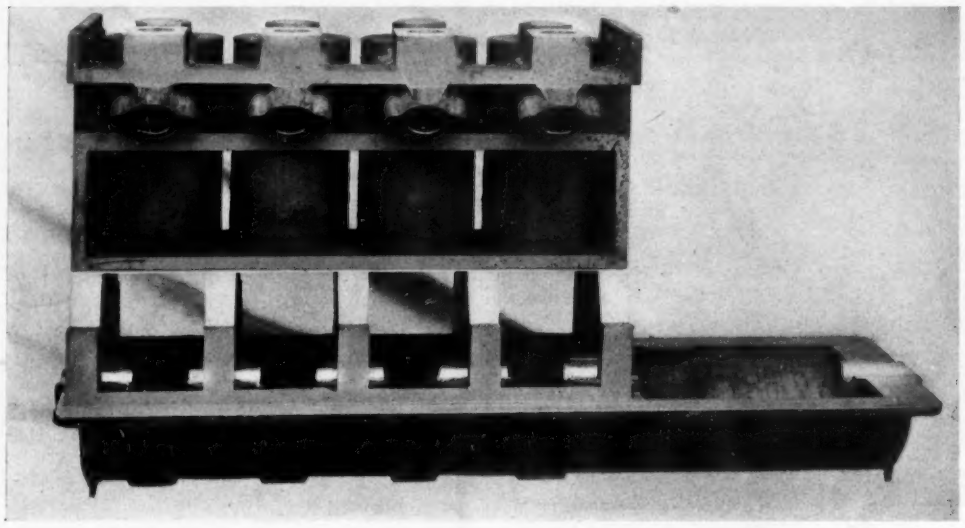
This company makes a specialty of insurance against fire on houses, stores, and rents of same; personal effects and other desirable property of value; tourist insurance within the United States and to foreign countries; marine insurance on imports and exports of merchandise; automobile insurance; also insures merchandise in transit on railroads and coastwise steamers; cargoes and hulls on rivers and lakes; sail yachts; and issues parcel post insurance policies.

paints is, that on repainting next season it will not be necessary to burn off or scrape the coat applied this season, all that is necessary being to wash the old coat of Enamolin with soap and water. In most instances this will put the boat in first-class shape for the following season. However, if the owner wishes to give it another coat of Enamolin it will only be necessary to sandpaper the old coat and apply a renewing coat. One gallon of Enamolin is sufficient to give a 25-foot boat two coats or a 50-foot boat one coat.

The manufacturers, Messrs. Emil Calman & Company, fully guarantee Enamolin in every respect, and if you are not in every way pleased with the results of a trial of it you have but to say so and your money will be cheerfully refunded. Write to them for their booklet on Enamolin, containing testimonials from leading yacht owners of the United States. It will convince you.

Much Activity in Morris Heights The Gas Engine & Power Company and Charles L. Seabury & Company, Con., of Morris Heights, New York City, report that they have recently furnished new "Speedway" engines as follows:

18/22 horsepower, to George McMinn, Brooklyn, N. Y., for hunting-cabin launch Niobe; 12/15 horsepower, to Thomas Byrnes, New York, for launch Ginger; 18/22 horsepower, to A. Selwyn, New York, for launch Brownie II; 18/22 horsepower, to F. W. Cooke, Paterson, N. J., for new 36-foot hunting-cabin cruiser; 18/22 horsepower, to C. D. Phelps, New York, for 38-foot cabin launch, Grace; 18/22 horsepower, to S. Burtis Amory, Fond-du-Lac, Wis., for 40-foot cabin gasolene launch; 50/60 horsepower, to R. L. Mcleay, Portland, Ore., for new cruising boat; two 100 horsepower, to Lee & Brinton, Seattle, Wash., for new boat building on the Pacific Coast; 50/60 horsepower, to Charles Class, Philadelphia, Pa., for new hunting-cabin cruiser built by U. G. Wright, Paulsboro, N. J.; 8/10 horsepower, to Orengo y Vismara, Buenos Aires, Argentine Republic; 50/60 horsepower, to Geo. Lawley & Son, South Boston, Mass., for new 55-foot cruising launch built by them for Mrs. Mark Hanna; two 50/60 horsepower, to W. L. Moody, Galveston, Tex., for 65-foot cruising launch Nancy Ann; 18/22 horsepower to R. H. McCurdy, for auxiliary sloop Tabineau, designed by Cary, Smith & Ferris; 50 horsepower to United States Navy Department, for new launch building at Norfolk, Va.; 18/22 horsepower, to S. B. Graham, Seattle, Wash. They have also supplied new launches as yacht tenders to the steam yachts Bellemere, Ariadne and Carmina. There is at present under construction in their yards a launch for Mr. Peter Rouss' new turbine yacht; an 18 and a 23-foot launch for Capt. James Brown, steamer Ethelwood, and an 18-foot launch for the steam yacht Ituna.



Photograph of a Trojan Engine, showing how the four cylinders are all in one casting.

A Brass Jacketed Engine of Splendid Workmanship In designing the Model B Brass Jacket Trojan Motor it has been the aim of the Trojan Manufacturing Company, of Troy, N. Y., to accomplish two objects:

First. To produce an engine that in appearance is in keeping with the modern gentleman's yacht or speed launch, especially with the high finish and handsome interior trimmings of such boats.

Second. Not to attempt to cheapen these engines or unduly reduce their weight by cutting down the size of bearings or reducing the size of working parts beyond the proper dimensions for the best mechanical results. Mechanical standards have been followed as to bearings, pistons, etc., which experience in the development of the high-speed steam engine has shown to produce reliability in service and nearly perfect freedom from wear.

The bearings and crank pin surfaces are of ample size and are floated in oil. The cylinders are in one casting, so that they will always remain mechanically true. The danger of bursting the cylinders by freezing of the water jackets has been avoided by adopting a sheet-brass jacket, by the use of which the water for cooling can be frozen solid without further injury than the possible bulging of this jacket, no injury to the engine being possible.

In appearance these engines are superb, and they are built to run continuously with practically no wear, and no attempt has been made to reduce weights at the expense of these qualities. They are rated at about two-thirds of their maximum horsepower, and not at the utmost power they can produce.

As to the mechanical construction of these motors it is simple in the extreme. The four cylinders, as stated, are cast in one piece, with a common water jacket of sheet brass. The danger of bursting cylinders from freezing is not only obviated, but a considerable reduction of weight is also effected. The cylinder casting is planed up, and the half-legs which support it are planed at the same operation. The boring is, of course, effected at right angles to the planing, and is therefore absolutely true. The base casting is in one piece, and is planed on its upper surface, and before removing from the planing the bearings, which have been previously babbitted, are planed up with a radial tool, and the half-legs attached to the base are likewise planed at the same operation. By this means absolutely true alignment is secured, and it is impossible to place the cylinder upon the base without having the bearings in exact truth with the cylinders. The usual form of belt-driven multiple oiler is employed, with sight feeds for each oil tube.

The engine is furnished either with automatic or mechanical gas valves, but the most careful tests show that at the ordinary speeds of 800 revolutions per minute, or thereabouts, the automatic in-take has been reduced to such perfection that the gain by the addition of mechanically-operated in-take valves is so small as to render the additional complication unnecessary. The engines are made in two sizes, four-cylinder, 4½ x 4½, rated at 20 horsepower, and four-cylinder, 6 x 6, rated at 36 horsepower.

Something New in Spark Plugs that Will Appeal to Public Favor The Eyquem Spark Plug, for which Messrs. Montgomery & Company, of 105 and 107 Fulton Street, New York City, are sole agents in the United States, presents many novel features which appeal strongly to the motor boat owner.

In the first place, the Eyquem plug is automatically cleaned, being bored from end to end and provided with a relief cock. By opening the relief cock the ignition is cut off, as the angle wire is then in contact with the ground. In this way the gases pass through the opening, and as no explosion takes place the cleaning is perfect.

When it is desired to test the cylinders of a multi-cylinder engine, each cylinder but one may be grounded by means of the wire on the relief cock, thereby testing one cylinder at a time without disconnecting of wires or using any tool whatever. These plugs may also be tested to note whether they are, or are not, sparking, by turning the angle wire to a position about 1/32 of an inch distant from the body of the plug. When a spark is obtained with the wire in this position, the plug is sparking properly.

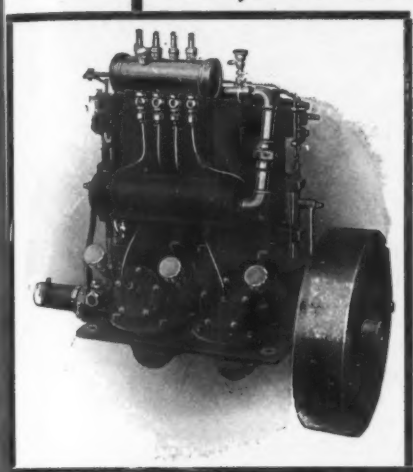
Another advantage which this plug possesses is that it may be grounded, making it impossible to start the engine; a very disconcerting situation for a would-be thief to find confronting him.

By means of the cup at the top and a relief cock the engine may be primed and the cylinder and plug cleaned at the same time.

Every owner of a motor boat in which ignition current is obtained by a magneto has had experience in the troubles arising when testing the cylinders by suddenly short-circuiting and throwing the load on so quickly as to cause a sudden rise in voltage and a break-down of the installation. With the Eyquem plug, the method of grounding, as explained above, is used instead of the ordinary method of disconnecting the wire from the plug. The advantage on the former method lies in the fact that the plug circuit is not broken and the magneto does not stop working. Taking it all in all, this combination, by reason of its being easily cleaned, and by the method of grounding when desired, is bound to make itself as many friends in this country as it has in Europe during the past few seasons, both by the conveniences which it offers and its beauty of workmanship and general appearance. An interesting illustrated folder containing full details of this novel and ingenious plug will be sent free on request by Montgomery & Company at the address mentioned above, and will be well worth the attention of motor boat owners. Better write for it to-day.

PALMER

35,000 PALMER ENGINES are "Putting Away" All Over the World To-day

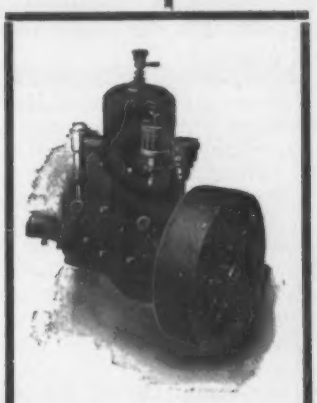


Every one of them was made right here at our factory, and every part of them, when needed, is easily accessible and renewable immediately.

35,000, that alone speaks quality in the original product. Built in 1 to 30 H. P., 2 and 4 Cycle, make and break or jump spark, 1, 2 and 4 Cylinder.

Launches in stock from 17 to 30 ft.

CATALOG FREE



PALMER BROTHERS,
New York, 30 EAST 20th STREET
Philadelphia Office, THE BOURSE
Seattle, Washington, COLMAN DOCK

Factory: COS COB, CONN.
Portland, Me., 48 PORTLAND PIER
Boston Office, 85 UNION STREET
Vancouver, B. C., 1600 POWELL STREET

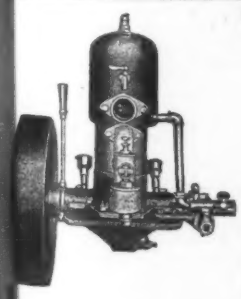
The Pigeon-Fraser Hollow Spar is the Best Spar in the World

We have never heard of a Pigeon Spar collapsing. Their special construction is the reason. Many of the owners of crack racing and cruising yachts of the country—both large and small—will use no other spar.

The Advantages of the Hollow Spar

are lightness and rigidity. These qualities are as essential on the cruising yacht as on the racer. Owing to the comparative lightness of hollow spars and the saving of weight aloft, the violent rolling and pitching in a seaway can be greatly reduced, with a consequent lessening of the wear and tear on sails and rigging. Write us about hollow spars for your boat.

Pigeon-Fraser Hollow Spar Company
East Boston, Mass.



The CADY MOTOR

is so simple to operate, the veriest novice will find it absolutely safe and easy to handle.

If you want to learn of a really efficient, powerful and economical engine, *write your needs TO-DAY.*

C. N. CADY CO., Canastota, N. Y.

The SMALL YACHT

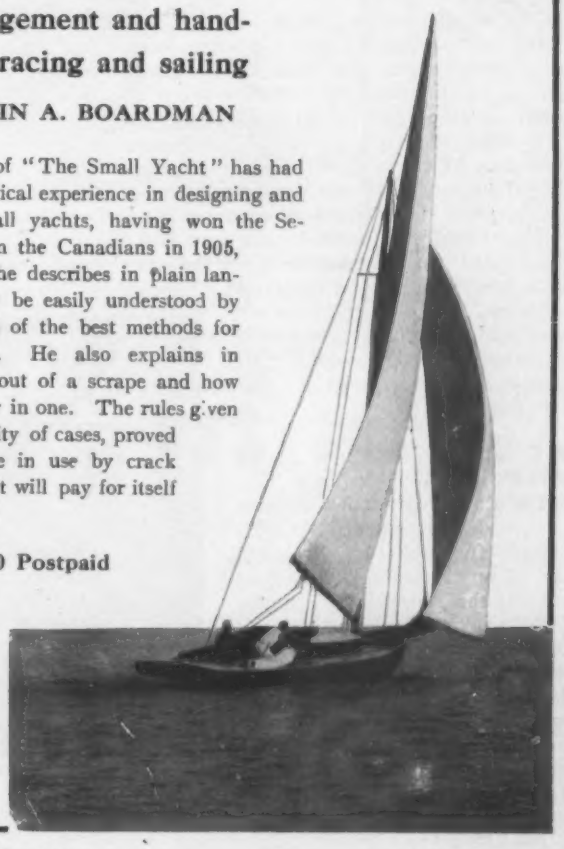
Its management and handling for racing and sailing

By EDWIN A. BOARDMAN

THE author of "The Small Yacht" has had much practical experience in designing and sailing small yachts, having won the Sewanhaka cup from the Canadians in 1905, and in this book he describes in plain language, which may be easily understood by the amateur, some of the best methods for tuning up a boat. He also explains in detail how to get out of a scrape and how to put a competitor in one. The rules given have, in the majority of cases, proved successful, and are in use by crack amateur sailors. It will pay for itself in your next race.

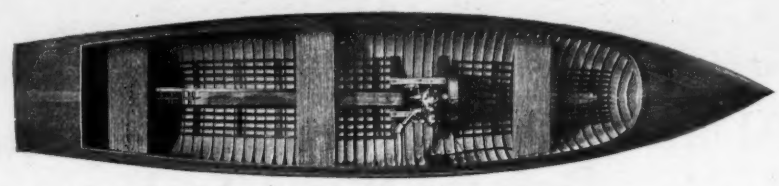
Price $2.00 Postpaid

Yachting Publishing Company
20 Vesey St.
New York



Some More Sterling Successes That the Sterling engine, by its own merit, has come well to the front, is evident to those who have watched the records made by it in all classes of service during the past season. The Sterling combines, to a marked degree, the qualities of reliability, speed and ability to stand up under severe usage and keep on delivering something over its rated power, under the most adverse circumstances. Three of the Sterling's latest laurels were gained in racing probably rolled up new scores to By this time the engines have probably rolled up new scores to their credit.

The Mavis, a speed boat owned by C. H. O. Pook, of Hamilton, Ont., of the Royal Hamilton Yacht Club, and equipped with a six-cylinder, 55-horsepower Sterling engine, won first place and the Canadian Speed Championship in a race held at the Coburg regatta on August 6.



Rushton's 17½-foot launch, equipped with a 3-horsepower Ferro motor, which drives her 9 miles an hour.

The Albatross, a 41-foot cruising boat owned by Commodore James Thompson, of the Stone Harbor Yacht Club, of Philadelphia, Pa., and equipped with a 30-horsepower semi-speed Sterling engine, won the race for cruising boats over the Ocean City Yacht Club's course at Ocean City, N. J., on August 11.

The Expense, a 27-foot speed boat, owned by George B. Wood, Jr., and F. H. Sisson, of Buffalo, and equipped with a four-cylinder, 18-25-horsepower Sterling engine, won first prize and the International Championship in a race held under the auspices of the Royal Hamilton Yacht Club, at Hamilton, Ont., Saturday, August 14. This boat averaged 20.96 miles per hour for a distance of 20 miles, the length of the race.

Canoe Manufacturer Enters the Launch-Building Industry Among the canoe builders of the country none occupies a higher position than J. H. Rushton, Inc., of Canton, N. Y., pioneers of canoe building from the days when the all-cedar craft was the prevailing type. This concern has, during the last ten seasons, been devoting most of its attention to the canvas-covered models.

A few seasons ago they started out with a line of power canoes, and realizing the inroad which the power boat has made among the ranks of canoeists, they have, this season, commenced building a 17½-foot canoe launch in quantities. These craft are built from the same specifications and with the same methods as their higher-priced models, but by building in quantity the price has been very much reduced.

The Rushton canoe launch is 17½ feet long by 3½ feet beam, and is equipped with a 3-horsepower Ferro Special as a power plant. The ribs, keel, transom and coaming are of oak, the planking and deck are of Michigan white cedar, and the decks are of beaded ash strips. The accommodations of the boat allow the carrying of six passengers on three seats, but additional ones may be crowded into the cockpit by seating them on the floor. The manufacturers state that the actual speed of the boat is 9 miles per hour, a very good showing indeed for a craft of these dimensions.

The Rushton Company have just finished what they term a 22-foot semi-speed canoe launch, built on the same specifications as above. This boat, however, is to be equipped with an 8-horsepower Ferro engine and reverse gear, and it is expected that a large number of orders will be received for this latter model.

A Compact and Powerful Motor The new four-cylinder Park City engine, which has been tested out thoroughly for two years, has been placed on the market with great success this season. This motor being so compact, only 7⅝ by 24 inches, and weighing something less than 200 pounds for 10 horsepower, is certainly a little wonder. It is claimed by the makers to give more power than any engine of its size, and having four cylinders it has practically no vibration. The Consolidated C. S. M. Company, of Bridgeport, Conn., who manufacture these engines as well as all styles of light and heavy motors from 1 horsepower up to 24 horsepower, one cylinder to six, are in position to supply orders on immediate notice. They have been shipping engines all over the United States and Canada. Lately they have made shipments to A. Emerson & Company, of Boston, Mass., and Reierson Machinery Company, of Portland, Ore., and to a great many other firms. Their idea is to bring the marine engine up to the standard of automobile engines, and, in fact, to bring the two-cycle engine ahead of four-cycle motors. The firm claims that any one trying these engines will soon be convinced of their merits, and that their two-cycle machines, with their special form of piston, use less gasolene and give more power for their size than any engine on the market.

The Ferro Exhibit Draws Crowds and the Ferro Engine Pushes Government Dories The great popular interest in motor boating, and the general desire to learn more about marine engines, is well demonstrated by the crowds of people who daily visit the exhibit of Ferro engines and parts in Machinery Hall at the Alaska-Yukon-Pacific Exposition. The Ferro exhibit is of an educational nature, methods of manufacture and mechanical features being illustrated. In addition, a line of Ferro engines and reverse gears in various sizes is shown.

Mr. W. P. Street, the Western sales manager for the Ferro, is in attendance, to explain any points which may perplex the visitor, and to give the benefit of his years of experience.

As an illustration of the growing popularity of the dory type, and the adaptability of the Ferro engines to such craft, it may be mentioned that the United States Government has recently purchased six 4-horsepower Ferro motors, with a Ferro reverse gear for each, for installation in some new motor dories which have been ordered for government service at the United States naval station at Mare Island, Cal.

The Eyquem spark plug, which has a relief cock for priming and cleaning, and an angle wire to allow grounding.

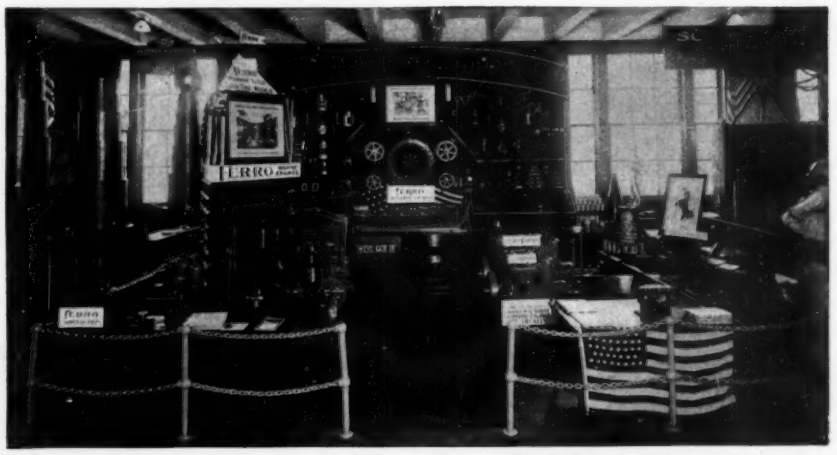
A Special Discount to Readers of Yachting Few to-day have the opportunities for shore bird and duck shooting which lie right within reach of the owner of a motor boat. Instead of putting up at a hotel, riding or walking a long distance to the water, and then paying a guide for the use of boat and decoys, the motor boat owner can anchor within a short row of the best shooting grounds and take his own decoys with him.

The Knickerbocker Hammerless gun built by the H. & D. Folsom Arms Company, of 314 Broadway, New York City, is just the gun for expeditions of this sort. It is strong, reliable, far shooting and hard hitting, and will kill game just as far and just as dead as the highest-priced shooting iron built.

The Knickerbocker Hammerless, while plainly finished, is extremely strong and smooth working, very durable and absolutely accurate, and, moreover, very handsome in outline. It has all the up-to-date shot-gun improvements, and frame and action parts are drop-forged from the best refined steel. As it is locked by a heavy round-barrel lug bolt, and has also a cross bite on the extension rib, it is particularly adapted to the heavy charges used in wild fowl shooting, and is so constructed that even with the heaviest loads it is absolutely impossible to shoot it loose.

The fore end is of the Deely & Edge pattern, pistol grip, and is full capped. The gun is built in both 12 and 16 gages, and the purchaser may have his choice of barrels of 28, 30 or 32 inches in length, and in weight of guns from 7¼ to 8 pounds.

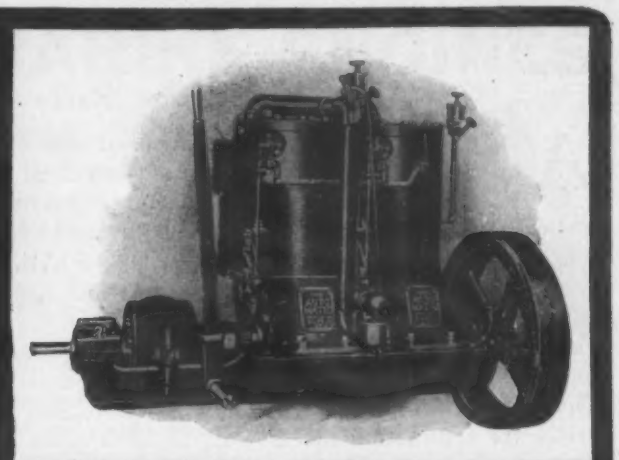
The regular price is $18, but to those who will mention the fact that they are readers of YACHTING the Folsom Company will make a special price of $15.



The exhibit of the Ferro Machine & Foundry Company at the Alaska-Yukon-Pacific Exposition.

The "Automatic"

Specially Constructed For LONG DISTANCE CRUISING



"The Automatic" Engines run reliably at slow speed under the most adverse conditions through intricate channels or canals just as well as at their full-rated power.

"The Automatic" Engines run day and night, for months on end; one of them recently completed a trip of 8,000 miles with never a hitch.

And after this that same engine went right off again on her next voyage with less than a dollar's worth of repairs.

If you are planning the power equipment for your next year's cruiser, if you contemplate long stretches off shore or away from gasolene specialists, it will pay you to write us that we may tell of what the Automatic has actually done in long-distance work.

"The Automatic" Engines are the Standard of Relability and Simplicity.

We are making a special price reduction on our 6, 12, 18 and 24 H. P. engines.

Ask about it. One to six cylinder. 6 to 150 H. P.

AUTOMATIC MACHINE COMPANY - - BRIDGEPORT, CONN.

Automatic Machine Co., Railroad Ave. and Washington St., Seattle, Wash. (Mr. H. H. Lewis, Manager).

Automatic Machine Co., 1811 Market St., Galveston, Tex. (Mr. Jas. M. Parmelee)

P. P. Brueckbauer, Elkhart Lake, Wis.

Crescent Marine Motor Works, 116 Ferry St., St. Louis, Mo.

J. W. Enright Iron Works, 862 Tchoupitoulas St., New Orleans, La.

Henshaw, Bulkley & Co., 19-21 Fremont St., San Francisco, Cal.

King & Runyan, Pensacola, Fla.

M. J. Moran, 4262 E. 96th St., Cleveland, O.

Harrison M. Reed, So. Jacksonville, Fla.

Reierson Machinery Co., Portland, Ore.

Southern Gas Engine & Power Co., 25 Broad St., Charleston, S. C. (Chas. E. Witmack, Manager).

Chas. W. Triggs, 60 N. Canal St., Chicago, Ill.

Florida Gas Engine & Supply Co., Tampa Fla.

Wallace Bros., Norfolk, Va.

Page Engineering Co., 119 E. York St., Baltimore, Md.

Fairbanks Co., New York, Boston and Philadelphia.

A RECORD OF WHICH WE ARE PROUD

The remarkable demand for our new models has so greatly exceeded our expectations that we could easily have sold twice as many motor boats as we could possibly build during the past season. Anticipating a large increase in our sales we greatly increased our capacity—yet even that increase was not sufficient to enable us to make prompt shipments and we are therefore erecting a large, modern new building, 600 feet long by 150 feet wide that will give us **90,000 additional square feet of floor space.**

MULLINS STEEL MOTOR BOATS

have won a reputation entirely on their merit, of which we are very proud. Their superiority is beyond question—in France, Germany, Austria, Great Britain, India, China, Japan and South America, they have demonstrated their superiority over every other type of craft. **Tens of thousands of Mullins Steel Boats are in use in the United States alone** and there is hardly a civilized country on earth to which we have not made shipments during 1909.

Mullins Steel Boats are equipped with many new exclusive improvements—**One-Man Control—Concealed Machinery—Improved Reversible Engine—Mullins' Silent Underwater Exhaust**—and are beyond question the safest, fastest, staunchest, most durable and dependable boats built. Every Mullins Boat is guaranteed to give absolute satisfaction.

Made in Six Models—26 ft., 17-25 H. P.; 24 ft., 11-15 H. P.; 22 ft., 8-11 H. P.; 20 ft., 4-8 H. P.; 18 ft., 3 H. P.; 16 ft., 3 H. P.

Catalogue of Mullins Launches, Motor Boats, Marine Engines, Row Boats, Hunting and Fishing Boats sent on request.

THE W. H. MULLINS CO., 150 FRANKLIN STREET. SALEM, OHIO, U. S. A.

THE LARGEST BOAT BUILDERS IN THE WORLD.

Driftwood

The Sonderklasse Races

AT this writing nineteen *Sonder* boats are competing in the trial races off Marblehead to select three to meet the German boats in the forthcoming international races to be held August 30-September 7, under the auspices of the Eastern Yacht Club and Kaiserlicher Yacht Club of Kiel, Germany. On account of the number of entries the races are being sailed in three divisions, divided as follows: First Division—Bandit, Corinthian, Crooner, Joyette, Spokane III, Wag. Second Division—Bessie, Demon, Eel, Ellen, Manchester III, Sumatra, Vim. Third Division—Alarm, Caramba, Lady, Sally X, Skeezix, Wolf. The trials are elimination races, boats to be dropped from each division after every day's racing. The number of entries is very gratifying and nearly every prominent designer in the country is represented with one or more boats.

In the early races Joyette, Wolf, Crooner and Ellen showed up well, but it is still too early to predict the final outcome of the series.

The three German boats, with their owners and crews, have arrived, and are being tuned up outside of Marblehead. The boats are Hevella, which will be sailed by Mr. Otto Protzen, who sailed the Wannsee here three years ago; Seehund II, Mr. Otto Berghoff and Dr. Herman Serini, and Margarethe, Mr. Hans Kirsten, Edwin Koch and Captain Hans Tietgens.

The German boats represent the best that Germany could produce, and, judging from the way in which their boats were sailed during the last *Sonder* races here, they will be well handled.

Basing our inference from the early elimination races, it would seem that our own new boats are considerably faster than the old *Sonder* boats that are competing against them. The first races were held in strong easterly winds and high seas, and were won honestly. It has been said that the Germans, profiting by their former experience here, have equipped their boats for somewhat lighter weather conditions than was the case then, and the outcome of the races will be watched with intense interest by the entire yachting world.

Race Week at Atlantic Yacht Club

With the publication of the Atlantic Yacht Club's race week (September 1 to 6) programme comes the announcement that the crack 57-footers, Istalena, winner of the King's Cup and owned by G. M. Pynchon; Aurora, Cornelius Vanderbilt's sloop, and H. F. Lippitt's Winsome, will sail a series of three races over outside courses, somewhat similar to those used in the contests for the America's Cup. These yachts have been providing close and interesting races on the Sound, but have not been seen before down the Bay or off the Hook. Mr. H. E.Boucher, chairman of the regatta committee of the Atlantic Yacht Club, urged the owners to try conclusions in an ocean race during Race Week, and their consent was readily obtained.

They will sail a series of three races on September 1, 2 and 3. The courses will be laid from the Scotland or Sandy Hook Lightship. The presence of these racers adds much to the interest of the week, which promises to bring together the largest fleet seen down the bay in several years. Races will be held on Wednesday, Thursday and Friday, September 1, 2 and 3, and on Labor Day. Saturday, September 4, will be devoted to water sports.

On Wednesday morning at 10 a. m. first race will be started. This will be the Corinthian navigation race for schooners, arranged to test the ability of amateur navigators. The course will be to a stake boat anchored off shore. Its position expressed in latitude and longitude will be given to the contestants shortly before the start. They will find it without professional assistance of any kind. Rounding this they will turn Nantucket Lightship and finish off the Scotland Light vessel. The conditions of the race make it no easy task, and the winner will have reason to be proud of his achievement. For this race Commodore Richards has presented the trophies, one of which, a silver tray, is one of the handsomest prizes of the season. The prizes are to be awarded as follows:

First prize for best corrected time over course regardless of class, based on Atlantic Yacht Club rating measurements. First prize for best corrected time over course regardless of class, based on over-all length. Allowance, 22 minutes per foot for full course. Prize for Class A, best corrected time over course based on over-all length. Allowance, 14 minutes per foot for full course. Prize for class B, best corrected time over course based on over-all length. Allowance, 24 minutes per foot for full course.

The race should provide a good basis for comparison of the various handicapping systems, as allowances are to be made both on over-all length and rating measurement.

On Wednesday morning at 11 a. m. steam auxiliaries, regardless of rig, will sail as one class starting for Nantucket Light Vessel. The finish line will be off the Scotland Lightship.

The afternoons of Wednesday, Thursday and Friday will see series races in several classes which are sure to be keenly contested. Three races will be sailed by Q class sloops for the custody of the Thompson Cup.

W. H. Childs built More Joy for this race, and R. A. Brown has purchased Manhasset, which has made a fine record on the Sound. Princess, Eleanor and Capsicum are some of the other fast ones that will help to make the races interesting. There will also be a lively series between S Class boats and series for Classes M, N, P, R, X, handicap boats and the New York Canoe Club dinghies.

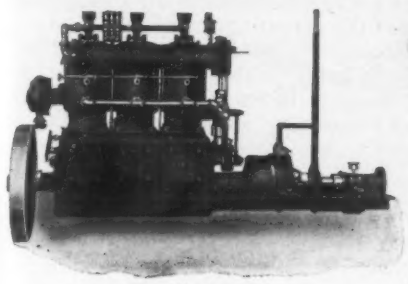
On Labor Day there will be races for schooners of all classes, sloops of Class J and below, handicap class and dories. Entry blanks may be obtained from H. E. Boucher, 20 Fulton street, chairman of the Atlantic Yacht Club Regatta Committee, or at the clubhouse.

Recent Sales and Charters

Through the agency of Tams, Lemoine & Crane the following yachts have recently changed hands: The 220-foot steam yacht Apache sold for Mr. Edmund Randolph to Mr. F. Legru, of Paris; 60-foot motor yacht Tip Top by Mr. Peter Duffy to Commodore F. C. Swan; motor yacht Mao II for Dr. Seymour Oppenheimer to Mr. F. L. Hutton; schooner yacht Cygnet sold for Mr. Arnold Lawson, of Boston, to Mr. Frederic Gallatin, Jr.

The following boats have been sold through the Gas Engine & Power Company and Charles L. Seabury & Company, Con., Morris Heights, New York City: Forty-two-foot raised-deck cruiser William Sperb, Jr., to A. H. McRae *et al.;* 46-foot launch Idler, W. M. Chesebrough to C. Phillips; launch Danoosh, J. D. Acker to H. Beck; launch Anaconda to J. H. Meyer; launch Tommy Anne to M. B. Wailes; 45-foot teak wood Speedway motor boat Ketchikan II, Edward Kemp to A. L. Judson, name changed to Whip'po-Will, now in service on Lake George, speed 20 miles per hour; 36-foot launch Beatrice, E. R. Reynolds to S. A. Nugent; 45-foot Speedway motor boat Alfredine III, R. E. Slaven to Dean Alvord, speed 23 miles per hour; 45-foot open Speedway motor boat Mercury, sold to H. Crandall, Lake George, N. Y.; 38-foot launch Carolina, to C. D. Phelps, and new 4-cylinder, 18 to 22-horsepower Speedway engine installed; launch Don Jose, to L. W. Bunde; 38-foot teak wood Speedway motor boat Hornet I to W. Carruthers, Montreal, Can.

"DOMAN" HEAVY DUTY MARINE ENGINES



Port

ESPECIALLY ADAPTED FOR

CRUISERS, AUXILIARIES AND COMMERCIAL BOATS

OUR MOTTO, "QUALITY"

We also build high speed, medium weight motors.
Workmanship and material of the highest grade.

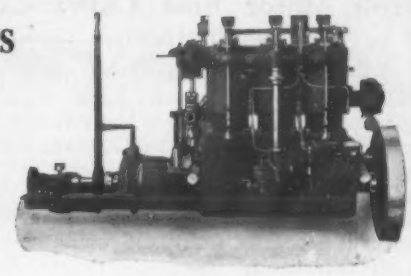
WRITE FOR CATALOG "X1"

THE H. C. DOMAN CO.

The High Grade Engine Builders

OSHKOSH, WIS., U. S. A.

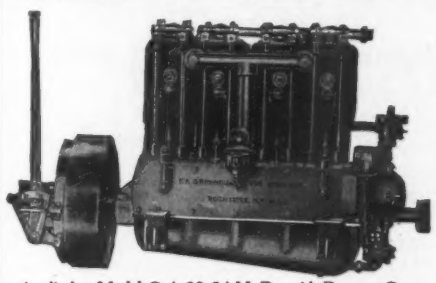
Seattle Branch - - - 72 Jackson Street



Starboard

The name "Doman" is your guarantee of satisfaction. Think of the name when you buy an engine

BROWNELL MOTORS



4-cylinder, Model C-4, 30-34 H. P., with Reverse Gear.

Superior in the many points that go to make the most dependable and satisfactory Motor.

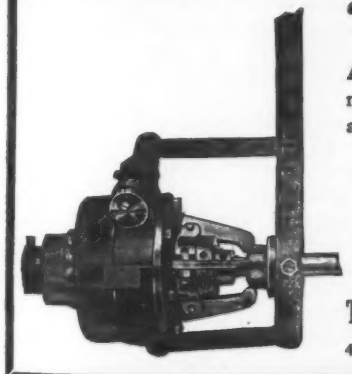
Sizes, 14 to 150 H.P. in 4, 6 and 8 cylinders.

A Postal—A Catalogue

F. A. BROWNELL MOTOR COMPANY
ROCHESTER, N. Y.

Marine Representative for Massachusetts, GEO. LAWLEY & SON CORP., South Boston.

Joe's Improved Reversing Gears and "One Way" Clutches



All powers ranging from the smallest motor to motors developing 150 H. P. at 1,000 revolutions per minute.

IMPORTANT CHANGES IN CONSTRUCTION AND PRICES

Advance Circular Now Ready

The Snow & Petrelli Mfg. Co.

443 CHAPEL ST., NEW HAVEN, CONN.

Philip Morris Cigarettes

ORIGINAL LONDON

It is doubtless possible to make other cigarettes as good—but, that possibility has never yet been realized

CAMBRIDGE regular size 25c AMBASSADOR after-dinner size 35c

"The Little Brown Box"

A Cottage Cheaper Than You Can Buy the Materials

A Cornell Portable Cottage on Beautiful Lake George

Take your vacation in some beautiful spot away from crowded, hot and uncomfortable hotels and boarding-houses with their noise and confusion. Select the place of your heart's desire, either in the woods, on the shore or among the mountains and have a Cornell Portable Cottage shipped there; erect it in a day and enjoy the most delightful vacation you ever had.

Cornell Portable Cottages

are handsome and inexpensive. They are strong, durable and weather proof, and are far better than what local contractors build and cost much less. Built in sections of first class materials, painted inside and out any colors desired, shipped anywhere, easily and quickly erected by simply bolting the sections together, they become the ideal building in which to spend the summer months.

We build Portable Cottages, Garages, Boat Houses, Churches, Studios, Stores, Pavilions, etc., and ship everywhere, freight prepaid. We have the largest and best equipped portable house factory in America and employ only skilled workmen. Catalog upon request.

WYCKOFF LUMBER & MFG. CO., 401 Adams Street, ITHACA, N. Y.

News of the Yacht Clubs

Detroit Motor Boat Club's Cruise to Chatham

In the teeth of a furious nor'wester, that blew a small hurricane over Lake St. Clair, the Detroit Motor Boat Club, thirty-seven boats strong, made their second annual cruise to Chatham, Ont., on Saturday, July 24. The day was clear, and, aside from the high wind, was an ideal one for the run. Had not untoward weather conditions prevailed, it is estimated that there would have been over fifty yachts in the fleet. But if the trip over the lake was rough the reception and hospitality that awaited them at the Canadian city amply made up for all the tossing about the wind and the lake gave them. Along with the Detroiters were ten boats from Toledo and Munroe, three from Algonac and a couple from Cleveland. The cruise was started at 9 o'clock, Detroit time, from the D. M. B. C. docks, and the safe arrival of all the yachts at Chatham wharves was reported before dusk. The majority of the fleet were safely moored at Chatham before 6 o'clock, Canadian time.

The Mayor of Chatham and the citizens of that place had made unique preparations for the reception and entertainment of their visitors, who numbered over three hundred persons. The members and guests of the club will long remember it as one of the most enjoyable events in their lives.

At the mouth of the Thames River, 18 miles below Chatham, the Americans were met by a fleet of fifty pleasure launches from the Canadian city. This fleet, which has been good-naturedly dubbed "the Chatham Navy," was in command of Commodore Walter W. Scane, a most enthusiastic motor boat man. The Canadians had dressed their boats with Uncle Sam's Old Glory flying at the fore and the Union Jack behind. The American dress was just the reverse. A feature of the river reception was the chartering of the D. W. Crow, a lumber tug, by a number of the Chatham reception committee. This boat was draped from bow to stern with American flags, intermingled with Jacks, and was run down full speed out into the lake just as the Americans were coming in. As she swung out into the breakers, puffing and snorting, with a contingent of wildly cheering Canadians aboard, she caused no little amusement to the visitors, who soon forgot their stormy voyage in the interesting programme which had been prepared for their benefit.

The first of the American fleet to arrive at the mouth of the river was the Wilanna, Commodore C. W .Kotcher's big yacht. It was a matter of general regret that the Commodore himself was too ill to accompany the fleet. In his absence Vice-Commodore W. E. Scripps had charge of the cruise, and acted for the day on the flagship Wilanna instead of his own trim little yacht Little Lady. With him on the Wilanna were Commodore Kotcher's son, George A. Kotcher, and George W. Graves, chairman of the Chatham cruise committee. The Wilanna was speedily followed by W. E. Scripps' Little Lady, F. R. Still's Laneta, W. J. Gordon's Bonnibel, W. H. Walker's Vernon, Charles Kelly's Kite II, Phillip Beamer's Anna M., W. H. Boggs' We're Here, Henry Bosserdet's Sea Queen and others of the swifter boats. Owing to the heavy gale the fleet became somewhat scattered, and some of them apparently got out of their course and were delayed in arriving. For this reason the cruise up the river had to be started as soon as the majority of the boats came in.

Each American boat was escorted by a Chatham launch, the flagships, Wilanna and Chatham, leading. The scenery up the Thames River from the lighthouse to Chatham is unsurpassed anywhere in the Dominion. About 5 miles up the banks rise a considerable distance above the water, and these are overhung with creepers and the most vigorous of vegetation, lending to the shores of the stream an appearance almost tropical. Farmers living along the Thames have also added in a material way to its beauty with artificial improvements. To those of the Americans who had never before sailed up the Thames it proved a rare treat. The stream is one of many turns. At places it expands into small lakes, and nowhere from the Light to Chatham is there less than 12 to 15 feet of water.

After a cruise of about two hours' length, an abrupt bend in the river suddenly brought Chatham into view. The residences and other buildings along the banks were all decked with patriotic colors by order of the Mayor, and immediately after the flagships were reported inside the city limits every factory whistle in the city was blown for a full twenty minutes. But even this din of welcome did not drown the cheering of the citizens who lined the banks and the city bridges.

Charlotta rounding in from the lake to Chatham Light.

An impressive scene awaited the visitors after they had passed through the two city bridges and rounded up at Tecumseh Park point, where special wharves had been constructed for their accommodation. The banks of this beautiful and historic park, on which the Indian chief Tecumseh is said to have fought and fell, were a revel of American and Canadian colors, strung from tree to tree. As the Americans made fast and disembarked the Twenty-fourth Canadian Regiment Band rendered American patriotic airs in the park above, and as each of the big boats came in it saluted with its cannon.

A band concert in the park followed, and a number of the yachtsmen dressed their boats and went out for a short cruise, taking with them the Mayor and members of the reception and entertainment committees. The cruising yachts were all lighted up with Japanese lanterns, making a pleasing display. The park was also brilliantly illuminated with a special electric display gotten up for the occasion. Later a ball was held in the armories, the music was furnished by an orchestra from the regiment band, and dancing on the huge waxed floor of the auditorium was excellent.

The first yacht reported out Sunday morning was Forbes Robertson's Shapadagee at 10:30. She was followed by the Sea Queen and the Lorraine at 11:15. At 2 o'clock, Canadian time, the return cruise was commenced. The flagship, Wilanna, Bonnibel, Dida and Laneta left for the flats of the Rushmere Club, where they laid to for the night, while the balance of the fleet returned direct to Detroit.

"We had a magnificent time—just a magnificent time!" was the enthusiastic way that George W. Graves, the cruise committee chairman, put it. "I never saw anything that was a greater success or gave better satisfaction all around. In fact, we are so pleased that we are determined to continue these voyages here till we bring 100 yachts with us."

To Mr. Graves is due a great deal of the credit for the systematic manner in which the cruise was pulled off. He had a special printed programme prepared, on which was given complete directions, and one of these was given to each yachtsman, thus preventing any confusion as to order in sailing and dress of boat. The speed boats were, unfortunately, unable to accompany the fleet on account of the heavy gale on the lake. This was somewhat of a disappointment, as every one had been looking forward to the expected exhibitions by the Scripps II, the Bug and the Admiral.

Massabesic Motor Boat Club

The above-named organization was formally launched at Manchester, N. H., on August 13, and has already a membership of about forty. The following officers have been chosen:

Commodore, C. C. Clifford; vice-commodore, Henry Milburn; rear commodore, John H. Hayes; fleet captain, Harry N. McLaren; treasurer, Chas. H. Hohman; secretary, E. J. MacDonald.

It is the intention of the new club to hold a regatta on Labor Day, in which it is expected that at least thirty power boats will participate. An account of these races will appear in these columns in our next issue.

Moosehead Lake Yacht Club

The new club house of the Moosehead Lake Yacht Club has been, from its opening, the center of the summer social life at Kineo. Each week some function under the auspices of the club tends to make the handsome edifice a popular rendezvous.

Saturday afternoon, July 24, a motor boat race over a 7-mile course proved a most popular event, all the boats being steered by women. The contest was won by Miss Ethel Outerbridge, daughter of E. H. Outerbridge, of New York, in the Hunky Dory. The second boat was piloted by Miss Elizabeth Smith, of Germantown, Pa. Her boat, the Wissahickon, is an open dory like the winner.

The fleet enjoyed a run on July 31, in which nine boats, containing fifty people, participated. A picnic supper was eaten on the shore of Moosehead Lake, and the trip home to Kineo harbor made in the moonlight.

A water gykhana was on the programme for August 7, in which thirty young people entered the canoe races, which furnished much sport. Saturday, August 14, brought a handicap motor boat race, once around the 7-mile course, which was won by the Nee-Bana, James K. Clarke, Ardmore, Philadelphia, owner. Twelve boats entered, the Nee-Bana starting last, but pulled ahead of the others, and crossed the finish line first, with Wissahickon again second.

At the annual meeting of the club, held August 11, the following officers were re-elected for the coming year: Commodore, Charles M. Clark; vice-commodore, W. H. Dougherty; rear commodore, Stanton I. Hanson; secretary, George Eliot Cooley, all of New York; treasurer, Col. C. A. Judkins, Kineo, Me.; fleet captain, James K. Clarke, Ardmore, Pa.; fleet surgeon, Dr. Rowland Cox, Jr., New York.

The Best Lighted Yachts

ARE EQUIPPED WITH

The Safety Storage System

Adapted to any size craft—Sail or Power. Tank can be stored anywhere.
Tank of convenient size for whole season's lighting.
Economical to install and maintain.
No working parts. Nothing to get out of order. Empty tank exchanged for full.
Permitted by National Board of Fire Underwriters and U. S. Steamboat Inspection Service.
Illustrated booklet and estimates cheerfully furnished.

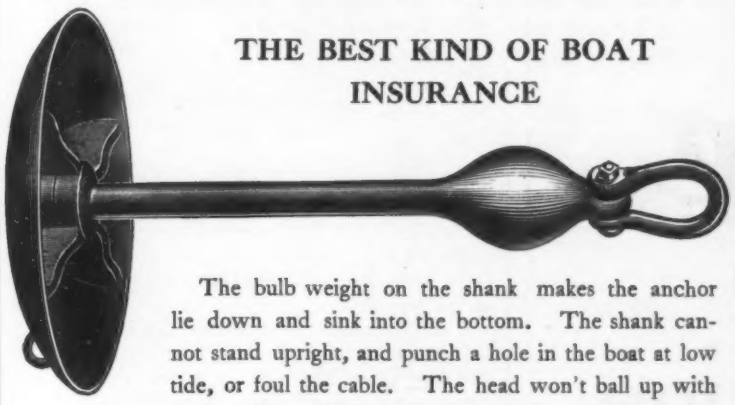
The COMMERCIAL ACETYLENE CO., 80 Broadway, New York City

THIS IS

The Bulb Shank Mooring Anchor

The Only Real Mooring—It Always Holds

THE BEST KIND OF BOAT INSURANCE



The bulb weight on the shank makes the anchor lie down and sink into the bottom. The shank cannot stand upright, and punch a hole in the boat at low tide, or foul the cable. The head won't ball up with mud. The trip line eye ensures the anchor coming up easily at the end of the season.

Send for our free "Mooring Book" and stop bothering with the junk pile that you've been fastening to your cable each spring.

FAIRHAVEN IRON FOUNDRY CO.
2 WATER STREET, FAIRHAVEN, MASS.

AGENTS

NEW YORK: C. D. DURKEE & Co., 2 and 3 South St.
BOSTON: A. S. MORSS Co., 210-212 Commercial St.
CHICAGO: GEO. B. CARPENTER & Co., 202-210 South Water St.

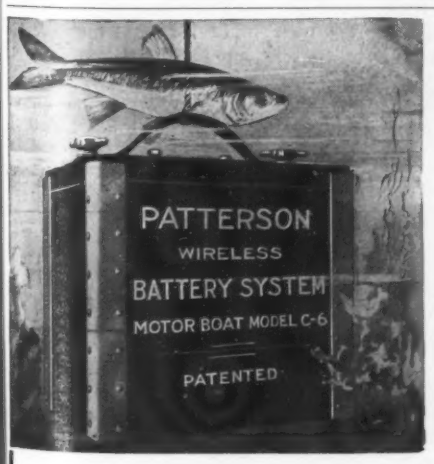
DURKEE OF NEW YORK

SIGNIFIES UP TO DATE AND THE BEST

Ask Your Dealer for Durkee's Fittings and You are Ordering the Best and Most Up-to Date

Catalogue Sent on Receipt of Ten cents.

C. D. DURKEE & COMPANY
2 and 3 South Street, New York City



Patterson Wireless Dry Battery System

"You Screw the Battery in—We've Done the Rest."

You'd hardly ask your Battery Set to work like this—but if you'll use the "Patterson System" when the emergency requires, it will do it.

This System revolutionizes the old methods of Battery Sets—its fundamental principle is a Screw Top Cell Unit, screwing into a solid hard rubber plate, which plate forms a waterproof cover for the entire outfit; batteries are suspended from the plate. There can be **no loosening connections—no bad contacts—no troubles from dampness and corrosion!**

A Wireless Battery Holder will not only maintain a Set of Batteries at **HIGHER AMPERAGE,** but will in a year or so **save the Motor Boat owner its entire cost from the greatly increased life each Set of Cells will give,** because of the Holder's scientific design for their protection and economical maintenance.

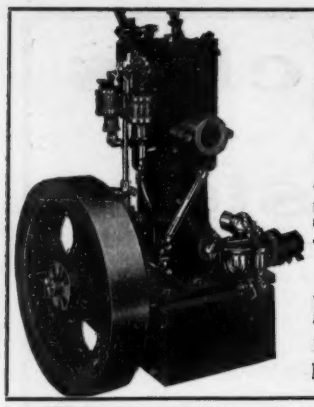
A WIRELESS DRY BATTERY HOLDER will last a lifetime.

Emergency Clips are provided so old style "Binding Post" Cells can be used any time "Screw Top" Cells are not at hand.

Send for Bulletin 37.

STANLEY & PATTERSON, 23 Murray St., New York

NOTE.—*Battery Cells to fit* **"PATTERSON" WIRELESS DRY BATTERY HOLDERS** *are now regularly manufactured by all prominent makers of Dry Cell Batteries throughout the country. When ordering Batteries simply specify that the* **"PATTERSON" SCREW TOP CELL** *is required in place of the old Binding Post Type of Cell.*



The ROYAL ENGINE

A simple, practical up-to-date motor. The design and workmanship insure power for steady service.

Royal Equipment Co.
157 Housatonic Ave.
Bridgeport - Conn.

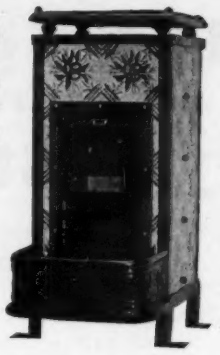
Tile Yacht Stoves

Only suitable **stove** on the market. Of English design, tile to **harmonize** with **cabin furnishings.**

PIPE HOLE IN TOP OR BACK

Write for Circular

MURDOCK-SHAW CO.
125 FEDERAL ST.
BOSTON



THEODORE ROOSEVELT'S

own and exclusive account of his

African Trip

begins in the **October** Number of

Scribner's Magazine

The start of the famous expedition---the wonderful railway journey through a country that was like a "great zoological garden," his meeting with Selous, the famous hunter of big game, descriptions of the black tribesmen of his caravan, his outfit, guns, tents, etc., etc. Most interesting observations upon the effects of the English, German, and other white settlements. The illustrations from photographs by Kermit Roosevelt and others.

These articles will run a year, and subscriptions should be sent at once to secure the full narrative.

Any person who can secure subscriptions can make money on Scribner's this year. Liberal cash commissions and cash prizes. Write NOW for particulars.

$3.00 a year. 25 cents a number

CHARLES SCRIBNER'S SONS, NEW YORK

Montauk and Grayling

(Continued from page 216.)

Sow and Pigs and the Hen and Chickens lightships—with the start and finish off Beaver Tail. Then the Sea Fox and the Sachem sprang into existence and took the Goelet Cup from Grayling in two separate trials.

Among other important races won by the Grayling was one around Long Island for the William Travers Cup, in which she defeated not only the Montauk but the Fortuna, Fleetwing, Ruth and Estelle. It was a 43½-hour contest.

Montauk always liked more weather and sea than Grayling. In extremely light airs the latter could drift like a phantom. In the New York Yacht Club run from Glen Cove to New London, July 31, 1885, the Grayling won after 15 hours' "sailing," beating Montauk, Clytie, Ruth, Dauntless, Varuna, Estelle and Vixen among many others.

Allowing for conditions, a review of the performances of the two centerboard boats leaves very little for an impartial mind to decide between the two. It was give and take with them always, as might be judged if it were possible to print a summary of all the races in which they competed boat for boat. Theirs were exciting careers, and the chronicling of some of their brave races brings back a flood of recollections, and arouses a wonder if the American yachting world will ever again give to the younger generations such aquatic battles as were fought by Montauk and Grayling, rest their precious timbers!

The Mackinac Race

(Continued from page 202.)

the memorial shield, as the Mackinac Cup is a perpetual challenge cup. Amorita won the prize for the best time over the course regardless of allowances, and Valmore took the schooner class prize. Little Illinois won the sloop class prize from Vencedor on time allowance, and Naiad won in the yawl class.

The yachtsmen were tendered a banquet by the citizens of the Island City Wednesday night, and William Hale Thompson created a sensation by announcing that an entry from the Atlantic coast was practically assured for next season if the rules of the race could be amended to permit the entry. The yacht which proposes to journey from the seaboard to compete against the lake sailors was declared to be Geo. M. Pynchon's sloop Istalena. The rule provides that the boat shall be entered by some member in good standing of a bona fide yacht club of the Great Lakes. Mr. Pynchon is still a member of the Chicago Yacht Club, if I am not mistaken, but whether this will qualify his boat, owned and sailed only on salt water, to sail in the race remains for the committee to decide.

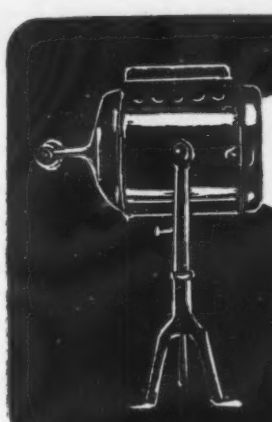
Mr. Thompson also announced that every effort will be made next season to secure entries from Canada, and plans were made for the appointment of a committee to take up the matter with the schedule committee of the yachting associations of the lower lakes.

Here is the actual finishing time of the boats, together with the elapsed and corrected time:

	Finish. A. M.	Elapsed Time.	Corrected Time.
Valmore	9:33:03	42:33:33	39:51:01
Amorita	9:28:08	42:28:09	42:28:09
Illinois	12:35:00	57:35:00	48:59:21
Vencedor ...	8:10:45	53:10:45	49:57:13
Alice .....*	12:42:10	57:42:10	54:05:06
Hawthorne..*	12:25:00	57:25:00	54:20:26
Naniwa .....*	7:35:00	64:35:00	56:48:57
Mistral .....*	6:05:00	63:05:00	59:48:21

* Tuesday.

The finishing time of Seeboomooh, Naiad and Nahma was not taken. J. M. HANDLEY.



The Neverout
TRADE MARK
SEARCHLIGHTS
FOR MOTOR BOATS

Artificial Daylight

is always on tap at any hour of the night to the man whose boat or automobile is equipped with a ***Neverout.*** No other searchlight is so powerful.

The Neverout Safety Gas Producers

besides furnishing the best and cheapest gas for searchlights are particularly adapted for lighting interior of cabins, camps, etc. Burn steadily outdoors with slight protection.

Simple, safe, sure, economical

At first-class dealers. Money back if not satisfactory Write for free illustrated booklet.

ROSE MFG. CO.,
Main Offices, 935 ARCH STREET
PHILADELPHIA, U. S. A.

℞ COMPOUNDED AND PRESCRIBED SINCE THE YEAR 1837

For Sale at the Better Class of Pharmacies in every

Port of Call

On the Atlantic, Pacific, Lakes or Gulf and All Seaports of Central and South America

May We Send You Our Novelty Self Lighting Matchless

Match Safes

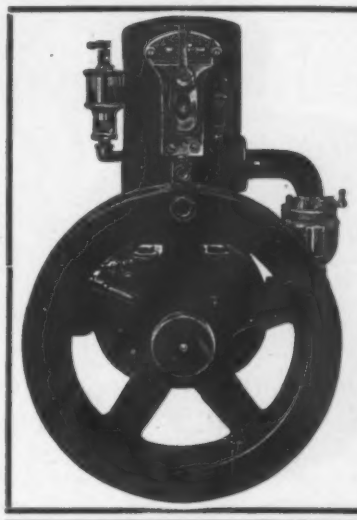
of Especial Benefit to Yachtsmen and Brochure, "Pills and People"

As A Laxative

Wright's Indian Vegetable Pills

Start You Right on Your Cruise and Keep You Right, All Right While at Sea

Wright's Indian Vegetable Pill Co.
372 Pearl Street, New York, U. S. A.



"RECOGNIZED QUALITY"

The Fulton Engine

IS

The Engine of SIMPLICITY
of SATISFACTION
of DURABILITY

¶ Note the absence of complicated piping. ¶ Of the hundreds of Fulton Engines which have been sold, not one has been found unsatisfactory. ¶ Send for our handsome Catalogue :: :: :: ::

FULTON ENGINE CO., Erie, Pa.

18 Foot Special, Price $200.00

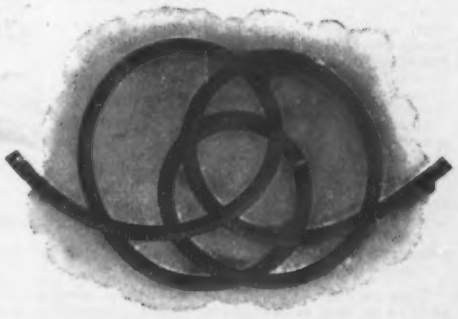
Our 18 ft. Special is complete in every detail and ready to put in water for service. It is fitted with a 3 H. P. Engine, has oak coaming, decks and shearstrake, bulkheads fore and aft, locker seats, floor covered with linoleum. Cockpit, decks and shearstrake finished in golden oak.

This is a strictly high-grade launch and the greatest launch ever offered for $200.00. Write for our 1909 Catalog.

DUNPHY BOAT MANUFACTURING CO.
105 First Avenue Eau Claire, Wis.

Flexible Galvanized Steel and Copper Tubing

The best material for Exhaust, Gasolene Supply and Water Circulating Piping. Does away with sharp turns and pipe fitting. Can be carried around curves as easily as rubber hose. Made in all sizes from ¼ inch up to 12 inches diameter. The greatest convenience ever offered to motor boat owners and builders.



Send for prices and full particulars. Discount to the trade.

THE AMERICAN METAL HOSE COMPANY
173-177 Lafayette Street, New York

REMINGTON OIL ENGINE

NOT LIKE OTHER OIL ENGINES

THE REMINGTON OIL ENGINE CO.

SEND FOR CATALOGUE NO. 3 **STAMFORD, CONN.**

Our 1909 Heavy Duty Knox Marine Motors

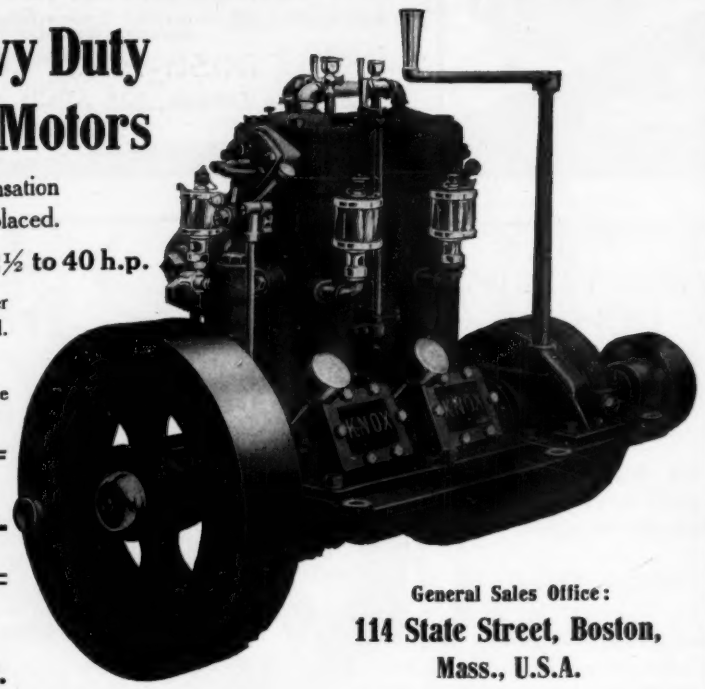
are creating a sensation wherever they are placed.

Two and Four Cycle—2½ to 40 h.p.

They are developing thirty to fifty per cent. more power than they are rated.

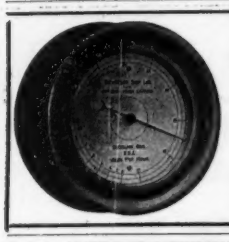
Now is the time to buy.

Send for our Catalogue and Price List, which explains all.



Factory and General Office:
Camden Anchor-Rockland Machine Company
Camden, Maine, U.S.A.

General Sales Office:
114 State Street, Boston, Mass., U.S.A.



The Nicholson Speed Indicator

shows the speed of motor boats and yachts. It can be easily installed in the cabin or cockpit of any boat. No trailing line overboard. Send for circular describing this instrument.

NICHOLSON SHIP LOG CO.
Cleveland, Ohio

Eastern Agts., Barrett & Lawrence 662 Bullitt Bldg., Phila., Pa.
Pacific Coast Agt., C. P. Nicholson 110 Market St., San Francisco, Cal.

FOR SALE

Complete sets of Castings with Forgings and Blueprints for Gasoline Marine Engines, 3 to 50 H. P., Opposed and Vertical.

COMET MOTOR WORKS
Madison and Canal Streets, Chicago, Ill.

BRIDGEPORT STANDARD (Mitchell's)

NON-FOULING ENAMEL PAINT

The best paint on the market for boat bottoms, producing a smooth, elastic, non-absorbent surface, which increases speed materially.

Selected for use on such boats as the Cup racers:
Defender Reliance Columbia Shamrock

Also on the
Vim, winner of the International Sonderklasse race
Alera, champion Thirty-Footer of the New York Club
Manhasset, winner of race for King Edward's cup
Dorello, the most successful yacht of the 1908 season
Nora II., the fastest raceabout on Long Island Sound
Mischief, champion Handicap class, Gravesend Bay

It will pay you to also use the other paint specialties for boats manufactured by us under Bridgeport Standard label:
Yacht White, for top sides
Duralite White Enamel, for interior and exterior wood and metal surfaces
Deck Paint, for decks and floors
Superior Spar Finish, for decks, masts and general interior and exterior work.
Paint and Varnish Remover, for removing all old paint and varnish before refinishing

Tear out this ad, write your name and address on the margin and send to us, and we will give you full information about these goods

THE BRIDGEPORT WOOD FINISHING CO.
NEW MILFORD, CONN.

New York, 55 Fulton Street. Chicago, 68-72 W. Lake Street.
Philadelphia, 41-43 S. 3rd Street. Boston, 48 Cornhill

Dorello

The New York Yacht Club's Long-Distance Race

(Continued from page 205.)

crippled Aurora and shot over the line, a winner by 18 seconds. Queen, of course, defeated Corona, and in the mixed class of smaller sloops Dorello won on time allowance. Altair led all the way, but could not evercome the handicap of 29 odd minutes which she had to give the little Boston 38-rater.

But the greatest race of the season was the annual regatta of the club, sailed from Brenton's Reef around Block Island, on the next day, July 9. The course was 52 miles, and the racers were started in an 8-knot southwest wind. The mixed classes of sloops were sent away first, Altair, Dorello, Irondequoit and Dorwina. Dorello led the way over the line, but Altair speedily overhauled her, and gained such a commanding lead that she won the race, despite the fact she was obliged to allow Dorello 25 minutes and 44 seconds. Queen, of course, had no difficulty in disposing of Corona, and right here it might parenthetically be remarked that it is almost a shame for Mr. Maxwell to take prizes under present conditions in the schooner class. If some wealthy member of the New York Yacht Club would build a schooner worthy to race against Queen there would be less hogging of prizes, and consequently a greater degree of interest in schooner racing.

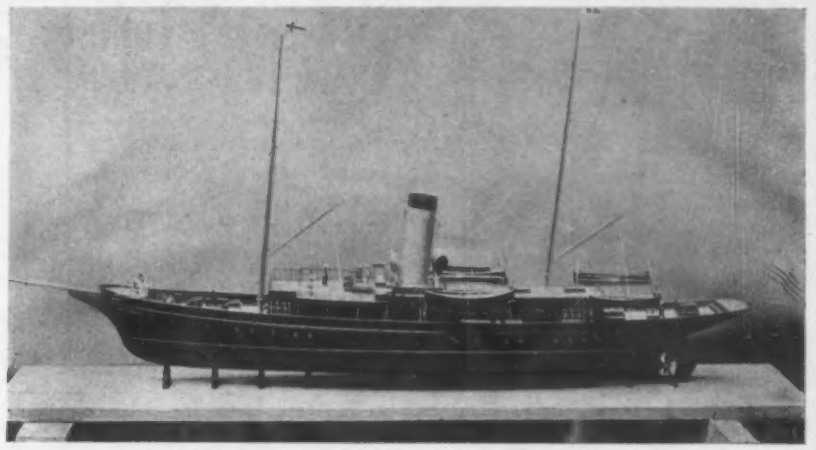
The best race of the day was that sailed between Aurora and Istalena. Istalena got the better of the start, with Winsome next and then Aurora. The three sloops made over towards the Narragansett shore hunting for the wind puffs. In a series of short tacks the trio worked their way past Point Judith, the result being the elimination of Winsome as a factor and a nip and tuck contest between the other two. They made Block Island and rounded it almost as one boat, and as the two big sloops ran for the finish mark, with spinnakers pulling like wild horses, it was impossible to tell which led. So evenly did they sail, in fact, and so close together, that the yachtsmen on the two single-stickers could talk across to one another. The crews were all aft; the sails were trimmed perfectly, and the racers swooped towards the line like great birds. Near the line it looked as though the boats would cross bow and bow. Three lengths from the line a current of wind stole along and gave Aurora just a second's lift. It was sufficient; she started ahead and slipped over the line less than half a length ahead of Istalena. It was one of the most remarkable finishes ever witnessed in a yacht race off Newport, or anywhere else in the East.

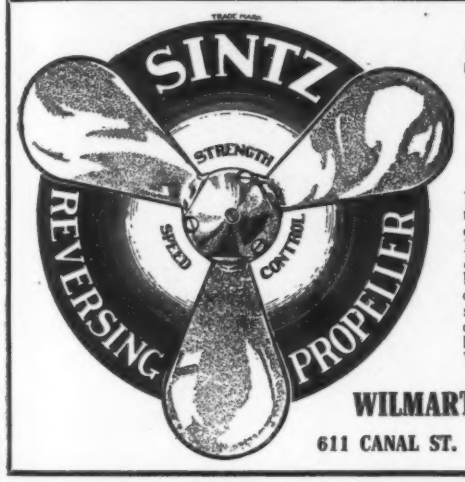
On Monday, July 12, five of the sixteen yachts which started from Glen Cove raced from the Brenton's Reef lightship to Matinicock Point. These boats were Queen, Sea Fox, Corona, Dorwina and Irondequoit. Queen finished first, arriving off Glen Cove at 4 o'clock next morning.

All in all, the New York Yacht Club regatta committee has reason to feel proud of its innovation. It is true that the expected number of yachts did not participate, but those that did were of the first class, and with the excellent racing which was had there seems little doubt that next year this event will call forth a large number of boats.

THE H. E. BOUCHER MFG. CO.
20 FULTON STREET
NEW YORK

MARINE MODELS A SPECIALTY
INVENTIONS DEVELOPED
PATTERN MAKING
SPECIAL MACHINERY DESIGNED AND BUILT





STRENGTH
is Essential in PROPELLERS

Last month we talked about speed. When you think of speed, you naturally associate it with frailness and delicacy. Not so with a "Sintz" Reversing Propeller. *It is as strong as a solid wheel.* That's going some, but it's absolutely true. Every part of the hub or mechanism has a strength two and one-half times the drawing power of the shaft. You'll be satisfied with a "Sintz" Wheel. Write to-day for proofs and terms.

WILMARTH & MORMAN CO.
611 CANAL ST. GRAND RAPIDS, MICH.

THE HIGHEST EFFICIENCY
is what counts

There are always enough people who want the best—who put "quality" before "price" in whatever they buy.

It is for just such people that

SPLITDORF
IGNITION APPARATUS

is made. Just give it a trial in your boat. You will soon discover an absence of ignition troubles that will make you its friend. Ask Dept. Y for catalog.

C. F. SPLITDORF, Walton Ave. & 138th St., Branch, 1679 Broadway **New York**

BATH MARINE CONSTRUCTION CO.
DESIGNERS AND BUILDERS OF
Pleasure Craft of All Kinds
BATH, MAINE

THIS WELL DESIGNED AND ATTRACTIVE CRUISER COMPLETE FOR $674

The dimensions are 25 ft. x 6 ft. 6 in. Frames, keel, stem, and all strength members are of clear oak. Planking is of clear pine, galvanized fastenings; decks of oak and white pine in narrow widths, cabin top canvas covered; all bright work oak or cypress, finished fair and true with four coats of yacht paint and spar varnish; deck fittings, steering wheel, etc., of polished brass. Engine 6 H. P., 2 cycle, reversible cruising type properly installed with 30 gallon tank. Workmanship and material the best, fully guaranteed. Plumbing, cushions and stove extra.
The reason our prices are lower than other first class builders is: We are equipped to build boats, and are located where we can secure the best skilled labor and material at bed-rock. Read what the leading yachting publications say about our product. **Send 10c. for Catalogue.**

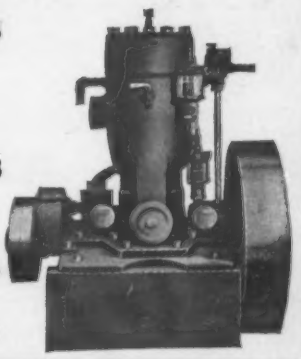
HENRY DOUGLAS BACON, Naval Architect

UNIVERSAL
Designed on Scientific Principles

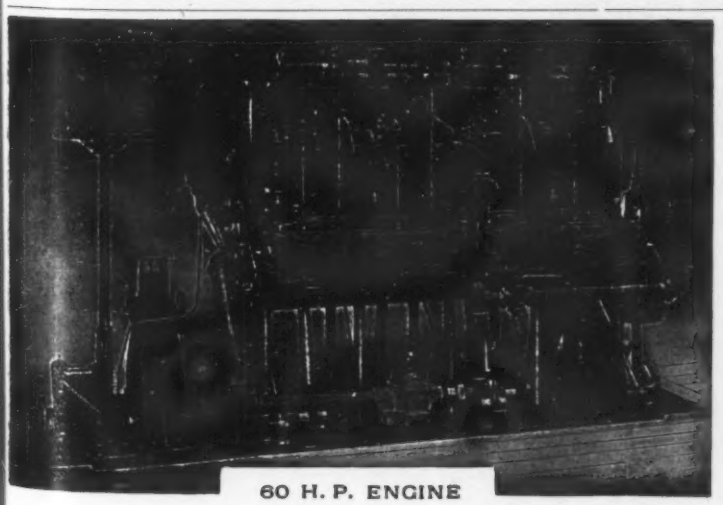
Single and Double Cylinder
Jump Spark and Make and Break
Simple. Accessible

Motor Boats and Cabin Launches

Write for catalog.



WEST MYSTIC MFG. CO.
WEST MYSTIC, CONN.
New York Salesrooms, 4 South Street



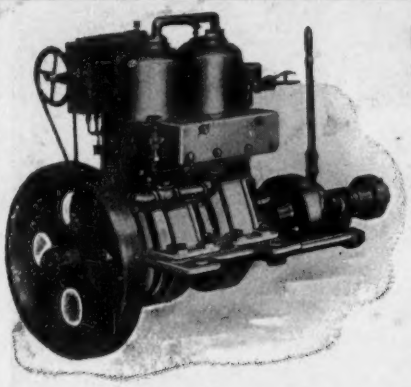
60 H. P. ENGINE

Gasoline Yachts & Engines
NOTED FOR RELIABILITY

Tregurtha Water Tube Boilers, Steam Launches & Engines

Send for Circulars and Second Hand List

MURRAY & TREGURTHA CO.
340 West First Street South Boston, Mass.
New York Office, Room 1228, 150 Nassau St. Telephone, 4543 Beekman



T & M MARINE MOTORS

"Those who buy T & M's are never regretful"

Cut illustrates 18 h.p. Special copper jackets, aluminum bases, etc. 300 pounds.

4 sizes in this type

The Engine that wins so many races.

Catalog and Treatise Free

We also have an Accessory Catalog.

Termaat & Monahan Co., Oshkosh, Wis.

Edson Steering Gears

have stood every test for half a century.

Established 1859.

EDSON MANUFACTURING CO.
260 Atlantic Ave., Boston, Mass.

THIS COMBINATION WILL
BANISH IGNITION TROUBLES

EVEREADY DRY CELLS
EVEREADY CURRENT METERS
EVEREADY BULL DOG BATTERY CONNECTORS

AMERICAN EVER READY CO.

NEW YORK
BOSTON
CHICAGO
SAN FRANCISCO

FERRO ENGINE SAVES TROOPS

¶ The mutiny of the native constabulary, which happened in Davao, Philippine Islands, on June 6 resulted in one of the most critical and fiercest fights which has occurred in the islands. The governor and his small force of U.S. troops could not hope to withstand the mutineers for long without aid. The only thing which saved the day was the speed achieved by J. E. Brown in summoning aid from Zamboanga, an island 900 miles away.

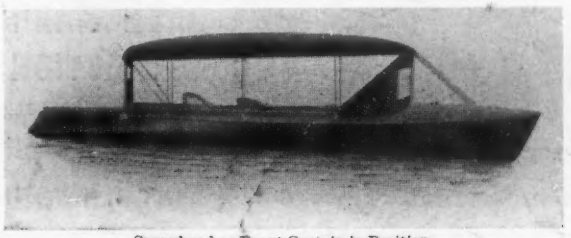
¶ In a launch powered by a Ferro engine he covered the distance in 60 hours, a speed of 15 miles per hour. The American troops immediately set out for Davao, reaching there when matters looked worst for the defending governor and his small force. With these re-enforcements, however, the mutineers were repulsed and order restored.

¶ This is another proof of the great efficiency and dependability of Ferro engines. A delay of even small duration for repairs might have resulted in disaster to the besieged Americans and their families. The operator of a Ferro engine takes no chances. He knows it will perform the work asked of it.

¶ See the Ferro exhibit at the Alaska-Yukon-Pacific Exposition in Machinery Hall, Seattle, Wash. Experts in attendance will be glad to assist you and give a demonstration, if you wish.

Write us for 1909 Ferro catalog. Sent free.

FERRO MACHINE & FOUNDRY CO.
Largest Marine Engine Builders in the World
Main Offices, 808 Superior Ave., Cleveland, O.



Sprayhood or Front Curtain in Position

The Name KENYON

and the accompanying cut stand for everything that is Perfect and High Grade in Tops and Cushions for motor boats. An exceptionally good opportunity for new agencies in southern territory. Write to-day for agency proposition.

THE R. L. KENYON COMPANY, - LA CROSSE, WIS.

Buy a CACO POWER WHISTLE OUTFIT and START THIS SEASON RIGHT

THE GOVERNMENT REGULATIONS CALL FOR AN EFFICIENT AIR WHISTLE ON YOUR BOAT

The Caco is the most Efficient, Practical, Safe and Satisfactory Air Whistle Proposition Obtainable

Our new **Marine Catalog No. 51** contains the most complete line of Air Compressors, Air and Gas Power Whistle Outfits, Hand Pumps, Whistles, Tanks, Gauges, Valves, Bilge Pumps, Oil and Grease Cups and Guns, etc., for Motor Boat use.

Ask your dealer for the Caco! If he can't supply you send for our catalog.

GLEASON-PETERS AIR PUMP CO.
Dept. 5 255-261 Classon Ave., Brooklyn, N. Y.
(Members Nat. Association Engine & Boat Manufacturers)